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September, 1952

SOAP and Sanitary Chemicals

In this issue...

Improved synthetic resins for modern floor finishes

* * *

Silicones, packaging give glass cleaners a new look

* * *

Sanitary supply salesman sticks if he is his own boss

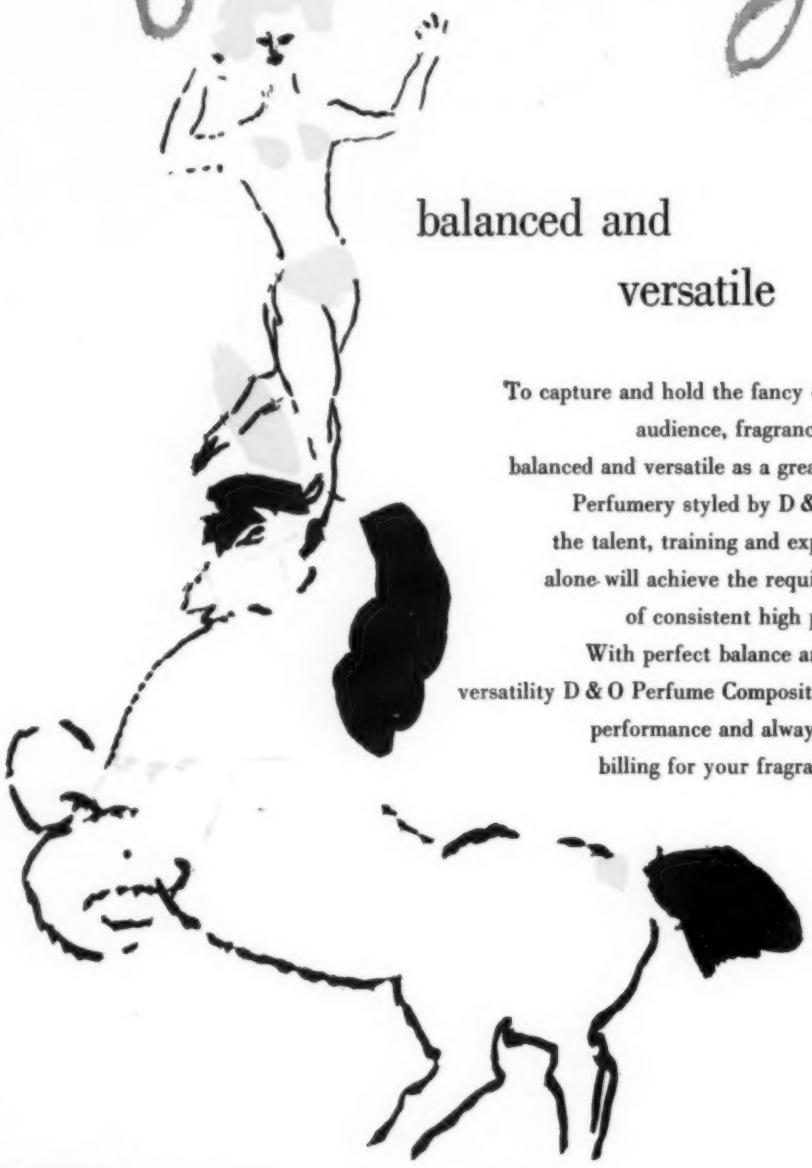
* * *

Household insecticides as aids in public health work

Cover photo . . . John B. Gordon, who rounds out 30 years as Washington representative of the Bureau of Raw Materials for American Vegetable Oils and Fats Industries, reviews the history of the Bureau and his association with it in an article beginning on page 42 of this issue.

1-5

perfumery



balanced and versatile

To capture and hold the fancy of its myriad audience, fragrance must be as balanced and versatile as a great performer. Perfumery styled by D & O combines the talent, training and experience that alone will achieve the required standard of consistent high performance. With perfect balance and maximum versatility D & O Perfume Compositions give top performance and always secure star billing for your fragrance product.

DODGE & OLCOTT, INC.

180 Varick Street • New York 14, N. Y.

SALES OFFICES IN PRINCIPAL CITIES

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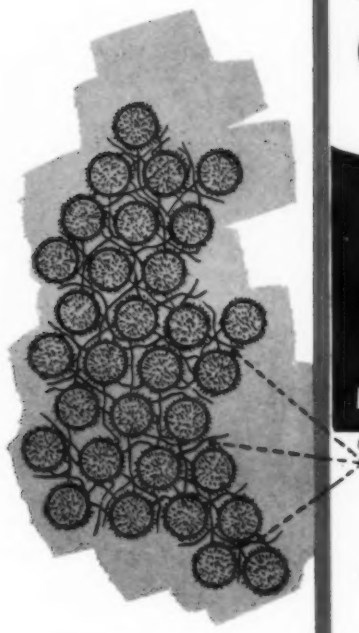
ESSENTIAL OILS • AROMATIC CHEMICALS • PERFUME BASES • VANILLA • FLAVOR BASES

You are looking at the reasons for *Guaranteed* Uniform Quality . . . under Your brand.



Fuld's Millimicron Controlled* MILLI-MIKE

SELF-SHINING
FLOOR POLISH CONTAINING WAX

THIS drawing represents particles of MILLI-MIKE emulsion . . . magnified 2-million times!

Notice the space between *each* particle. This uniformity is very important in order to achieve MILLI-MIKE's guaranteed quality. Because Fuld Brothers has perfected a manufacturing process to control millimicron particle size, they are able to control the quality!

In MILLI-MIKE, the quality is tangible. There is no guessing or hoping it's there.

MILLIMICRON CONTROLLED MILLI-MIKE GIVES YOU

- Mirror-like Lustre
- Low Maintenance Cost
- High Wet-Traffic Resistance
- Scuff and Slip Resistance without tackiness!
- Long Wearing Smooth Film
- Easy Removability
- Guaranteed Uniform Quality

MILLI-MIKE PRODUCES *ALL* THIS . . . AT *ALL* TIMES.

*By controlling the millimicron size of the emulsion Fuld gives you Guaranteed Uniform Quality.

For details, a tailor-made sales presentation for your sales force, samples and MILLI-MIKE's advantageous price, wire, write or call . . . today.

FULD BROTHERS, INCORPORATED

MANUFACTURING CHEMISTS
Warehouses in Principal Cities

702-710 S. WOLFE ST., BALTIMORE 31, MD.

In SANTOMERSE No. 1... it's the combined action

Wherever a combination of detergent and related properties is desirable in cleaning compounds, formulators have shown a marked preference for Santomerse No. 1.

The action of Santomerse No. 1 combines (1) Detergency, (2) Sudsing, (3) Wetting Out, (4) Emulsifying, (5) Dispersing . . . No one of these features is overdeveloped at the expense of the others — all work with a combined effectiveness that makes Santomerse No. 1 outstanding in a host of all-purpose cleaning operations.

Use Santomerse No. 1 in formulating detergent cleaners. It is available in flake, powder and granular form . . . MONSANTO CHEMICAL COMPANY, Phosphate Division, 1700 South Second Street, St. Louis 4, Missouri.

Santomerse: Reg. U. S. Pat. Off.

DISTRICT SALES OFFICES: Birmingham, Boston, Charlotte, Chicago, Cincinnati, Cleveland, Detroit, Los Angeles, New York, Philadelphia, Portland, Ore., San Francisco, Seattle. In Canada, Monsanto Canada Limited, Montreal.

1. *Detergency*
2. *Sudsing*
3. *Wetting Out*
4. *Emulsifying*
5. *Dispersing*

SANTOMERSE No. 1

MONSANTO
CHEMICALS — PLASTICS

SERVING INDUSTRY...WHICH SERVES MANKIND

SOAP and Sanitary Chemicals

Volume XXVIII, No. 9 September, 1952

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Dependable Source for Chemical Raw Materials

W. W. Thompson (right), president, Hydrite Chemical Co., Inc., inspects packaging operation.

BULLETIN BOARD

Caustic Soda:

Some cleaning compound manufacturers are finding that powdered caustic has some advantages over flake. Since other ingredients are powdered or fine-granular, a dust-suppressing oil is needed anyway; and the powdered caustic does not tend to segregate. Ask for trial quantity.

Soda Ash:

Supply of soda ash is adequate for the present; and we're expanding production to meet growing needs of old and new customers.

Pluronics*:

You'll want to look into this first 100%-active flake nonionic ever commercially available. It's another Wyandotte first. Samples and literature available.

"We rely on Kreelon CD for our own formulations—*recommend it to customers!*"

"We find new, improved Wyandotte KREELON is being well received by many of our customers," reports W. W. Thompson, president, Hydrite Chemical Co., Inc., distributors and manufacturers, Milwaukee, Wisconsin.

"They like its better solubility, good sudsing characteristics, clear color and uniformity.

"After thorough tests, one of our big customers recently switched over all his formulas to KREELON CD with excellent results.

"We strongly recommend this practice.

"In fact, we use KREELON CD in our own formulations. It offers the advantages of both a quality detergent and a detergent-promoter in one product, eliminates a difficult mixing operation, lowers over-all cleaning costs, gives 20% to 70% improvement in soil removal and whiteness retention. *It's easy on the hands, too.*"

Have you investigated the improved characteristics of WYANDOTTE KREELON* CD? Ask your jobber for samples and data, or write for a copy of our new 28-page KREELON book. It's packed with helpful information. *Wyandotte Chemicals Corporation, Wyandotte, Mich. Offices in Principal Cities.*

*REG. U.S. PAT. OFF.

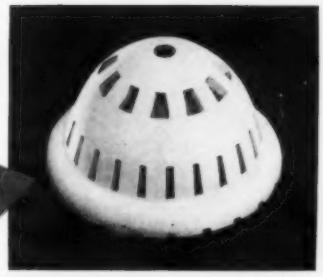
Wyandotte CHEMICALS

FOR SOAPS AND DETERGENTS

Ultra Modern DEODORANT HOLDER

LIMITED TIME OFFER!

—quickly attaches to wall—or use as urinal strainer! Included with each pack of 8 OKs—a full year's supply. Holder is hy-styled in lily-white flexible polyethylene—UNBREAKABLE.



AMAZING NEW OK

the Odor Killer in SOLID FORM with CHLOROPHYLL

imparts a cool, refreshing fragrance to EVERY room—but OK doesn't mask odors—it KILLS them by DESTROYING their SOURCE!

ends room and urinal odors forever!...

OK does it by CONTINUOUS chemical action—without liquids, wicks, sprays, bombs or gadgets!

DON'T LET ODORS STEAL YOUR PROFITS

Let's face it! Room odors—from urinals or ANY source—are just plain disgusting to employees, customers, patients alike. They're morale killers, trade losers and totally unnecessary!

KILLS ODORS CONTINUOUSLY

You can end odors once and forever with amazing NEW OK, the solid-form deodorant with chlorophyll. The moment you insert an OK in its holder a CONTINUOUS reaction starts that arrests decomposition of organic materials and ammoniacal substances that cause the odor.

ONLY OK DOES THIS

OK is the FIRST AND ONLY SOLID DEODORANT that eliminates these odors completely by *eliminating their cause!*

FULL YEAR'S SUPPLY FOR $8.00

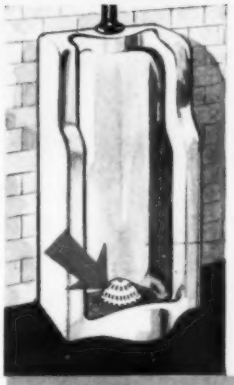
You know that present hit or miss methods—with liquids, wicks, sprays, etc.—don't END odors. That's why they still remain in your washrooms and premises. Don't allow them to build ill will for you another single day! Send for your pack of 8 OKs—a full year's supply only $8.00—plus postage. For a limited time we will include

ONE DEODORANT HOLDER
with each pack of 8 OKs

Holder is quickly attached to wall—or use it to replace messy, old-fashioned urinal strainer. The human hand need not touch holder to insert new OK odor killer. Each OK lasts 50 days (average) and *continuously* kills odors NIGHT and DAY. OKs work ALL THE TIME!

ORDER NOW—IMMEDIATE SHIPMENT

Join the thousands of cafe owners, hotel keepers, manufacturers and institutions all over America who are thrilled by the amazing and economical efficiency of this new day miracle deodorant. SEND COUPON.



IN URINALS

OK with holder replaces old-style, messy strainers and kills odors at the source by chemical reaction with organic material *before* it decomposes.

ON RESTROOM WALLS

OK in its modern, hy-styled holder... adds a decorative touch; kills odors night and day while imparting a cool, refreshing fragrance.

ATTENTION DISTRIBUTORS

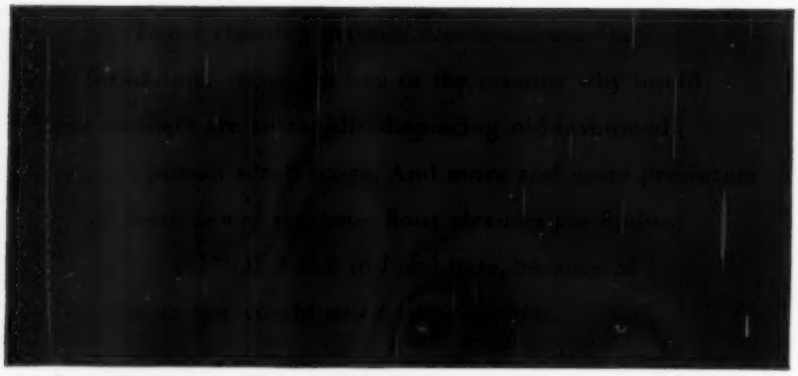
This advertisement (with coupon and your name here instead of this message) supplied free to distributors. Use it as a catalogue page. Other hard selling dealer helps available. Climb aboard one of the most successful deodorant product promotions of our time. Send for a box of 8 OKs with holder. Price $8.00 less 50% discount. You double your money. Or get a carton of 12 boxes with 8 holders included for $96, less 50 and 5. Show us that you can sell OK and we'll give you a mighty sweet, profit loaded EXCLUSIVE FRANCHISE DEAL *with advertising.* Let's hear from you.

Hysan PRODUCTS CO.

932 W. 38th PLACE CHICAGO 9, ILLINOIS

a nonionic detergent with
EXCEPTIONAL CLEANSING POWER

• NINOL 1281



RUST PREVENTION

Formulations can be safely packed in unlined steel pails and drums.

HIGH VISCOSITY

High body (and high sales appeal) result from NINOL 1281's unusual thickening action.

CONTROLLED FOAM

Stable suds in the bucket, but not enough on the floor to interfere with rapid rinse or pickup.

LOW PENETRATION

Will not creep under or loosen tiling, or leach oils out of flooring materials.

SEND THIS COUPON NOW!

NINOL LABORATORIES, DEPT. S,
1719 S. CLINTON ST., CHICAGO 16, ILL.

Gentlemen:

Please send me Technical Service Bulletin S-101, describing the use of

NINOL 1281

as well as other information, and a working sample.

NAME_____

TITLE_____

COMPANY_____

STREET & No._____

CITY_____

ZONE_____ STATE_____

Detergents — Emulsifiers

NINOL

NINOL LABORATORIES

1719 S. CLINTON • CHICAGO 16 • PHONE CHESAPEAKE 3-9625

In Canada: Chemical Developments of Canada Ltd., 420 Lagauchetiere Street W., Montreal 1, Quebec

NEW!

for Liquid Dishwashing Detergents

NINEX 21

an anionic detergent especially developed for
OUTSTANDING FOAM STABILITY

Easy dispensing (especially with the new faucet adapters)..no dusting..no caking..little wonder liquid dishwashing detergents are gaining popularity over powdered products by leaps and bounds! NINEX 21, a brand-new product of Ninol Laboratories, has just the right properties built into it for use in formulating restaurant and institutional dishwashing detergents.

FOAM STABILITY

A big feature—unusually high foam stability in the presence of grease.

LOW COST

Priced to help you sell in this highly competitive field.

ADJUSTABLE VISCOSITY

Gives proper body for use with any type of dispenser or to suit any glass container—by varying dilution and formulation.

RUST INHIBITION

Gets rid of an old bugaboo..can be packed in unlined steel pails without rusting.

WRITE TODAY FOR DATA SHEET, SAMPLES, PRICES . . . . . .

NINOL

Detergents—Emulsifiers

NINOL LABORATORIES

1719 S. CLINTON • CHICAGO 16 • PHONE CHESAPEAKE 3-9625

In Canada: Chemical Developments of Canada Ltd., 420 Lagauchetiere Street W., Montreal 1, Quebec

SEND THIS COUPON NOW!

NINOL LABORATORIES, DEPT. S,
1719 S. CLINTON ST., CHICAGO 16, ILL.

Gentlemen:

Please send me Technical Data Sheet describing

NINEX 21

as well as other information, and a working sample.

NAME_____

TITLE_____

COMPANY_____

STREET & No._____

CITY_____

ZONE_____ STATE_____

CAND-DOX**

Candy's Wax with LUDOX* added

Candy's NEW NAME for the new floor treatment for Increased Anti-Slip Greater Durability Lower Floor Maintenance Cost

GRADES

CAND-DOX #CS
Originally offered as CANDY'S SUPREME Special WR-AS in July 1950

CAND-DOX #BB
Originally offered as BRIGHT BEAUTY Special WR-AS in June 1951

CAND-DOX #CS and BB are made in any total percentage of solids 8% to 18% and in 24% concentrate.

CAND-DOX #CS is slighty more durable and higher priced than CAND-DOX #BB in like percentage of total solids.

CAND-DOX floor treatments represent the finest products available where a higher than minimum recognized standard of anti-slip quality is desired. The resultant films from the use of these products are *HARD*, non-tacky, and will withstand wear, dirt and discoloring traffic marks.

DURABILITY and ANTI-SLIP . . . CAND-DOX products include a compensating factor—LUDOX*—in itself harder than wax. The addition of LUDOX* to the proper wax bases, perfected purposely to accomodate this additive, causes a greater coefficient of friction and therefore greater safety underfoot.

WATER RESISTANCE and REMOVABILITY in proper balance are very important in every maintenance program. In the development of the wax emulsion bases that go into CAND-DOX floor treatments,..the important all-around high qualities of our (Standard) CANDY'S SUPREME, BRIGHT BEAUTY and other well known and accepted waxes were taken into consideration and accomplished in the final CAND-DOX products containing the new bases plus additive.

BEAUTY of floors maintained with CAND-DOX floor treatments, which are both hard and very anti-slip, is no less than remarkable and equal to the lustre for which our products have long been famed. The same buffing can be applied, if desired, and the same gloss will result.

Our policy in regard to use of new additives to our floor waxes has always been clear-cut . . . if a definite improvement can be accomplished we endeavor to formulate and combine new ingredients in such a way as to *conform to our very high standards of product function.* These standards in no case are ever sacrificed to climb on any "bandwagon" of *sales* appeal.

The laboratory work in ours or any organization is very important and the starting point for research and development of new useful products. However, FIELD TESTING is the real proof of the real value of any floor treatment. CAND-DOX floor treatments have been thoroughly field tested and are now being sold in quantity by many of our distributors, with success—again proving merit in FIELD USE.

** CAND-DOX contains CANDY'S wax emulsion with LUDOX* Colloidal silica added in such proportion as to *fully* deliver the usefulness of this additive to floor wax. *Trademark of E. I. du Pont de Nemours & Co., (Inc.) Reg. U. S. Pat. Off.

CAND-DOX is available for private brand resale and is sold only through distributors except for experimental accounts in Chicago essential to research.

Why not write us today for free samples and prices so that you can make your own FIELD TESTS?

The most complete line of water emulsion waxes of the highest quality available anywhere

CANDY'S SUPREME (Standard)
CANDY'S DELUXE
BRIGHT BEAUTY (Standard)
CANDY'S #640
CANDY'S SUPREME Special WR
#CS CAND-DOX
#BB CAND-DOX

All the above CANDY products are listed by Underwriters' Laboratories as "anti-slip floor treatment materials."

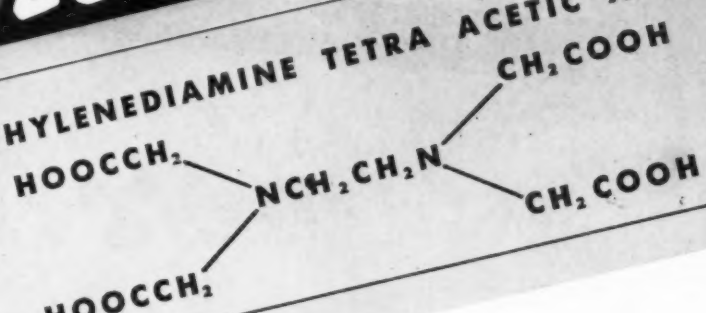
Wax Specialists for over 60 years

Candy & Company, Inc.

2515 W. 35th ST., CHICAGO

SEQUESTRENE

ETHYLENEDIAMINE TETRA ACETIC ACID



SEQUESTRENE is a non-colloidal organic "builder" and chelating agent which will give your soaps, detergents and sanitary chemicals more "mileage", more quality, more for your money.

SEQUESTRENE is a stabilizer for polyphosphates, silicates, peroxides . . . a synergist for quaternary ammonium and phenolic germicides . . . a foam stabilizer and detergency "builder" for soaps, anionic and nonionic detergents . . . a rancidity, oxidation and odor retardant in soaps, sulfonated oils, alkyl aryl sulfonates . . . decontaminant for radioactive surfaces . . . solubilizing agent in caustic soda bottle washing compounds, floor cleaners, milk stone solvents, rust removers, paint stripper, laundry alkali, heavy duty metal cleaners . . . clarifier for liquid soaps, shampoos . . . and in formulation of detergent-sanitizers, toilet soap, optical bleaches, liquid detergents.

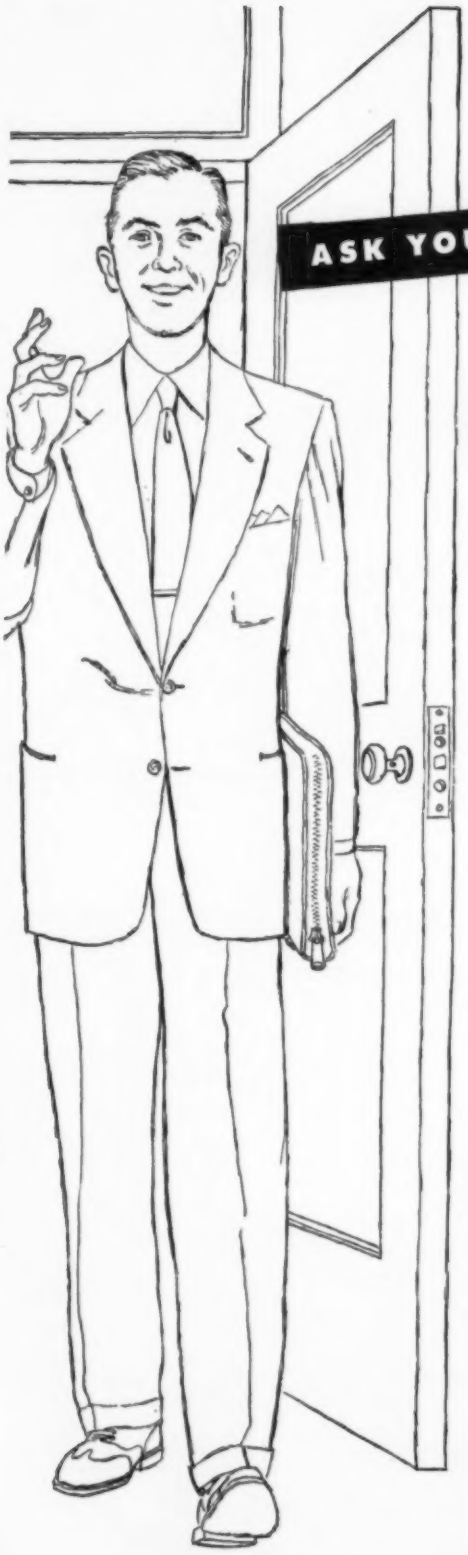
SEQUESTRENE is available as the pure acid (for conversion to amine or potassium salts) and as the di-, tri- and tetra sodium salts.

Write for New Technical Bulletin Today

Extensive bibliography of other literature available.

ALROSE CHEMICAL COMPANY

Box 1294 • Providence 1, Rhode Island • WIlliams 1-3000



ASK YOUR MATHIESON REPRESENTATIVE

What's New...

He'll tell you how we can now serve you better than ever before . . . because a lot has happened at Mathieson since contract season last year. He'll discuss in detail:

1. Our new activities in the organic field, with a full line of ethylene derivatives from our new Doe Run, Ky. plant, and methanol from the newly acquired Morgantown, W. Va. plant.
2. Our new facilities for production of nitrogen products, including large additional production of ammonia from Morgantown.
3. Our new and expanded alkali-chlorine facilities, including electrolytic production at Saltville, Va. and a new electrolytic plant at McIntosh, Ala.
4. Our new organizational set-up to better serve our customers.
5. Our new ideas for the economical distribution and use of Mathieson Chemicals.

These and other new Mathieson developments are worth hearing about. *Our* plans for tomorrow might well fit into *your* plans for tomorrow. Let's talk about 1953!

• • •

MATHIESON CHEMICALS

Soda Ash	Sodium Methylate	Hydrazine Products
Caustic Soda	Sodium Chlorite	Ethylene Glycol
Bicarbonate of Soda	Chlorine Dioxide	Diethylene Glycol
Liquid Chlorine	Ammonium Sulphate	Triethylene Glycol
Ammonia	Nitric Acid	Ethylene Dichloride
Nitrate of Soda	Dry Ice and Carbonic Gas	Ethylene Oxide
Processed Sulphur	Hypochlorite Products	Dichloroethylether
Sulphuric Acid		Methanol

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Inorganic and Organic Chemicals Departments

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Chicago 11, Illinois	New Orleans 12, Louisiana	Providence 3, Rhode Island
Cincinnati 2, Ohio	New York 17, New York	St. Louis 2, Missouri

Mathieson
CHEMICALS

1227

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Ready to give you
SUPERIOR DETERGENCY
at
LOW COST
On Wool, Cotton, Rayon

SULFRAMIN* L

A new Synthetic Detergent in GEL FORM

- **Outstanding foam stability, even in very low concentrations.**
- **Being slightly substantive, SULFRAMIN* L imparts a soft hand to fabrics.**

WIRE OR PHONE FOR YOUR SAMPLES TODAY!
and INVESTIGATE THESE OTHER SULFRAMIN* PRODUCTS

SULFRAMIN* AB-40 FLAKES
SULFRAMIN* AB-40 POWDER
SULFRAMIN* E LIQUID
SULFRAMIN* SPRAY BEADS
SULFRAMIN* AB CONCENTRATE FLAKES
SULFRAMIN* AB CONCENTRATE POWDER
SULFRAMIN* KE LIQUID
SULFRAMIN* AB SLURRY

*TRADEMARK REG. U.S. PAT. OFF.

ULTRA CHEMICAL WORKS, INC.
PATERSON, N. J. • LOS ANGELES, CALIF. • JOLIET, ILL.

ULTRA Chemical WORKS

SAF-FLOR

the new anti-slip FLOOR WAX

. . . real anti-slip features based on a newly developed copolymer* . . . very high gloss . . . water resistant in 12-24 hours, no water spot . . . easier to remove than ordinary floor wax with any regular floor cleaner . . . successfully withstood damp mopping for 25 consecutive days . . . freezing will not impair gloss more than 10% . . . available in any size containers to the trade only — or under your own label . . . send for full information on this revolutionary water emulsion wax.

SHAWMUT SPECIALTY COMPANY

Manufacturers of
ZIP-ON FLOOR PRODUCTS
for over 20 years

315 Centre Street **BOSTON, MASS.**

*Manufactured and patent applied for by Union Bay State Chemical Co., Cambridge, Mass.
The new polymer also available to floor wax manufacturers for their own formulations.

If Your Research and Development Program Involves Sulfonations... get these

GENERAL CHEMICAL SULFAN is stabilized liquid sulfur trioxide. It provides Industry with sulfuric anhydride in a convenient "workable" form, ideally suited to many processes involving sulfonations and sulfations.

WITH THE DEVELOPMENT OF SULFAN, many long-recognized, but hitherto impractical uses of sulfuric anhydride have been made possible. In production of detergents, dyestuffs, pharmaceuticals, textile wetting agents, organics, plastics, and other products, SULFAN has given evidence of offering important economies and advantages. Possibly it can do the same for you.

FOR RESEARCH AND DEVELOPMENT GROUPS interested in studying this important new chemical tool, experimental quantities of SULFAN are available. In addition, General Chemical has prepared four technical bulletins on SULFAN. Each one is packed with useful information. You will find them extremely helpful if your work involves sulfonations, or indicates their use. When writing for your copies, please fill in coupon completely, or make inquiry on your business letterhead.

CONTENTS OF SULFAN TECHNICAL SERVICE BULLETINS

Bulletin SF-1—SULFAN
Gives potential uses, physical properties.

Bulletin SF-2—"Reactions of SO_3"
Lists reactions with aliphatic organic compounds, reactions with aromatic organic compounds, reactions with inorganic materials.

Bulletin SF-3—"Storage, Handling and Use of SULFAN"
Safety and precautions, laboratory evaluations, sulfonation techniques, bulk handling, vaporization of SULFAN.

Bulletin SF-4R—"Use of SULFAN in manufacture of Alkaryl Sulfonate Detergents".
Contains latest information on the SULFAN method.

BASIC CHEMICALS
GC
FOR AMERICAN INDUSTRY

*SULFAN is General Chemical's registered trade-mark for liquid sulfur trioxide.

GENERAL CHEMICAL DIVISION, Allied Chemical & Dye Corporation
40 Rector Street, New York 6, N. Y.

Please send me the following Technical Bulletins on SULFAN. (Check those that interest you).

☐ Bulletin SF-1 "Sulfan" ☐ Bulletin SF-2 Reactions of SO_3 ☐ Bulletin SF-3 Uses & Handling ☐ Bulletin SF-4R Use in Detergent Mfg.

Name_____
Organization_____
Title_____
Address_____
City_____ Zone_____ State_____ SSC-9

FLOOR SAFETY ASSURED WITH "SURE STEP WAX"

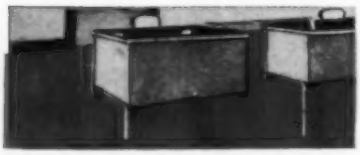
. . . BECAUSE IT CONTAINS* LUDOX

Rich – glossy looking yet **SAFE!**

Sure Step Wax is the tried and proven safety floor wax. It has been the pioneer . . . the leader. Thousands of hospitals, schools, industrial plants, office buildings and many other Sure Step Wax users, who demand floor safety are using Sure Step Wax throughout their floor maintenance program.

Contains *LUDOX colloidal silica. The addition of this special ingredient, developed by the Du Pont Corp. together with the proper base wax developed by Washburn gives Sure Step Wax its safety feature, with increase of gloss.

Rugged Beauty For Home—Stores—Office—Plants, Etc.



Sure Step Wax adds new beauty and color to your office floors.

Sure Step Wax gives new life and sparkling lustre to institutional floors.

Sure Step Wax has the rugged toughness and safety required in industrial plants.

Sure Step Wax—Solves An Old Problem

Sure Step Wax outmodes all ordinary anti-slip floor waxes, with their dull, gummy and tacky surfaces. Sure Step Wax has been discovered to definitely do a better job because it combines safety plus long-lasting, wearing qualities. Requires only 20 minutes to dry to a mirror-like finish. Sure Step Wax will last longer, costs less to clean and maintain.

In 15, 30, 55 gal. drums; 5 gal cans.

LISTED UNDER UNDERWRITERS' LABORATORIES, INC. REEXAMINATION SERVICE UL

WRITE FOR SAMPLES, specifications and prices.

* Trade Mark of E. I. DU PONT de Nemours & Co., Inc. Reg. U. S. Pat. Off.

REGIONAL WAREHOUSING SAVES SHIPPING COSTS

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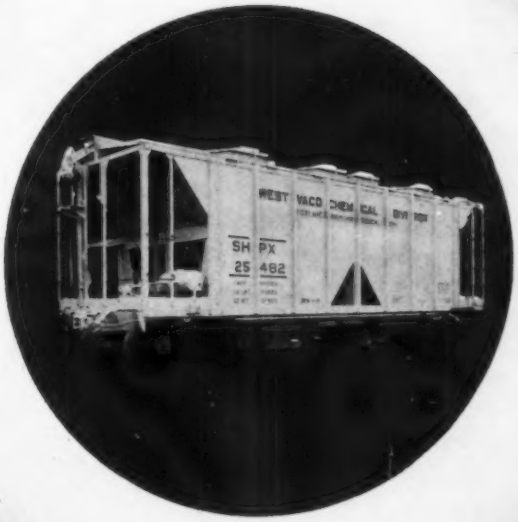

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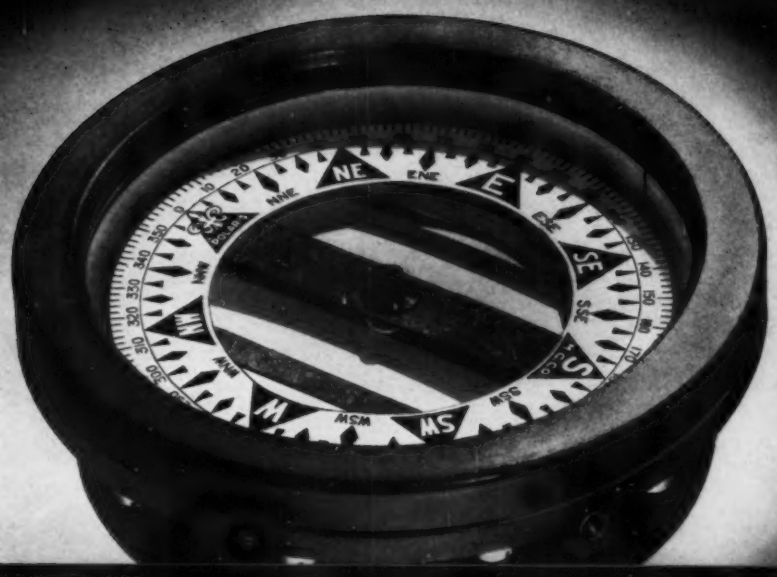

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After Closing . .

New Monsanto Deodorant Soap Agent

COMMERCIAL availability of a new non-irritating bacteriostat for use in deodorant soaps, shampoos, shaving creams, etc. is being announced late this month by Monsanto Chemical Co., St. Louis. The new product, to be sold under Monsanto's trade mark "Actamer", is retained on the skin in minute amounts necessary to provide sustained effectiveness against bacteria causing body odor and many skin disorders, according to A. T. Loeffler, development director of the company's organic chemicals division.

Controlled hand washing tests using soap containing very small percentages of "Actamer" showed a reduction of resident skin bacteria of more than 97.5 per cent. The product is claimed to be particularly effective in the presence of soap against gram-positive cocci. It is expected that "Actamer" will be used not only in deodorant soaps, but in shampoos, shaving creams, cosmetics and in pre-surgical scrubbing soaps.

Technically the new product is 2, 2′-thiobis (4,6-dichlorophenol). It is a white to light tan crystalline solid. Its stability compares favorably with similar products. Odor ranges from none at all to a very faint aromatic scent.

"'Actamer' possesses not only the ability to reduce bacterial populations on skin with no evidence of skin irritation or sensitization", Mr. Loeffler said, "but has an exceptionally low toxicity to warm blooded animals which is not commonly found in chemicals of this type".

In addition to its ability to adhere to the skin in minute amounts and drastically reduce the skin bacterial flora, the low toxicity of "Actamer" may permit selective use of the product in pharmaceutical and veterinary fields requiring oral administration. "Actamer" has already been successfully incorporated in a variety of soaps. Toxicological, chemical, antimicrobial and other technical information is available from Monsanto.

Kamen Synthetic Bar

The commercial availability of a new four-ounce bar soap containing 25 per cent synthetic detergent being made up for the U. S. Navy was announced Sept. 8 by Kamen Soap Products Co., New York. The unwrapped bars come 100 to a case. They carry U. S. Navy Stock No. G 51-S-1779, which calls for a four-ounce bar having a minimum potash hydrogenated tallow soap content of 40 per cent; 25 per cent synthetic and 25 per cent moisture. The price range per case is from $8.00 for one to 24 to $6.75 for 100 to 500. Kamen is producing sulfonated laurol alcohol. The government order calls for one million of the soap-synthetic detergent bars.

Fritzsche Buys D & O

Sale of Dodge & Olcott, Inc., New York essential oil and flavoring materials subsidiary of National Distillers Products Corp. to Fritzsche Brothers, Inc., New York, was announced by Fritzsche Sept. 2. No purchase price nor further details were given. Such details will be released in the future, according to the announcement. It is understood that there will be no change in D & O policies or personnel.

Dodge & Olcott, which makes its headquarters at 180 Varick St., traces its origin as the oldest company in America specializing in the importing of essential oils and kindred products back 154 years. Founded by Robert Bach at 128 Pearl St. New York, in 1798, the firm took its official title as Dodge & Olcott in 1861. The members of the original families in the firm at the time of the company's 150th anniversary were Richard J. Dodge, who became associated with Bach at the age of 14, and George M. Olcott who became a partner at the age of 22. At that time, Francis T. Dodge, a grandson of Richard J. Dodge, was chairman of the board. J. Waldo Booth, a grandson of Olcott, served as vice-president in charge of sales. Joseph Rudolph is president of Dodge & Olcott. Other executives having long service records are Vice-Presidents Valentine Fischer and Charles O. Homan.

Sale of Dodge & Olcott had been rumored in the trade for the past several months. On Aug. 1, employees of Dodge & Olcott were notified that the sale of the firm had been authorized. Actual signing of the contract covering the sale is understood to have taken place early in September.

Puritan Issues New Guide

A new buyers guide was published recently by Puritan Chemical Co., Atlanta. It consists of individual brochures filed in a ring folder, which allows for addition of new product information as it appears. The fully illustrated catalog shows Puritan's products grouped according to their functions and uses. It features a full range of equipment distributed by the firm. Apart from general use data the individual folders give helpful advice on selection of the right product for the job on hand and on the mode of its application. The information is cross indexed by uses and products.

New Whitening Agent

Manufacture of a new whitening agent in crystal form to be added to soaps and synthetic detergents has just been announced by Pennsylvania Detergents Co., 2238 N. Philip St., Philadelphia 33. "Orophyll" crystals are said by the manufactuer to be readily soluble in hot or cold water. They are completely soluble and are compatible with cationic, anionic and non-ionic type synthetic detergents. The crystals are available in tonnage quantities for commercial and industrial users.

Detergents, Inc. Sale

Acquisition of Detergents, Inc., Columbus, O., and the Eastern Packaging Co. of that city by the Monsanto Chemical Co., St. Louis, has not as yet been concluded. Negotiations are still being carried on, according to a statement by a Monsanto representative on Sept. 12. Newspaper reports which recently stated that Monsanto had purchased Detergents, Inc. and planned to expand the company and enter the production of new finished laundry products were tabbed as wholly incorrect.

If the negotiations for Detergents, Inc. are completed, and there is no certainty that they will be according to the Monsanto spokesman, no expansion nor the addition of any new products is anticipated. The impression left by some of the news stories that Monsanto plans to enter the household detergent field in a big way was flatly denied. If the deal is completed, no change in location of plant, personnel or other factors is contemplated.

Detergents, Inc. manufactures the detergent, "All," designed for automatic home clothes washing machines. It was founded in 1946 and employs 152 persons. Eastern Packaging Co., affiliate, employs 120 persons. The Monsanto product, "Sterox," non-foaming detergent basic material, is used in the manufacture of "All." This material, stated the Monsanto spokesman, is available to anybody and under the same conditions to anyone in industry. If and when the acquisition of Detergents, Inc. is completed, further details will be announced by Monsanto.

CSMA Board to Savannah

Meetings of the board of governors, administrative committees of the six divisions of which the association is composed, other committees and the past president's club of the Chemical Specialties Manufacturers Association will be held Sunday, Monday and Tuesday, Oct. 5, 6 and 7, at the General Oglethorp Hotel, Savannah, Ga.

Administrative committees and other committees are scheduled to meet Sunday, Oct. 5, in the afternoon and evening. There will be a get-together party following these meetings. The board of governors meets Monday morning, with other committee meetings to be held during the day. A brief meeting of the board will also be held the morning of Oct. 7, following which there will be visits to the Savannah laboratories of the U. S. Department of Agriculture and the Communicable Disease Center of the U. S. Public Health Service.

Those planning to attend the meeting from the Metropolitan New York area and who wish to travel to Savannah aboard the Florida West Coast Champion are asked to send in their reservations to the C.S.M.A. If a sufficient number plans to go this way a special car may be reserved.

Collier Heads Root-Lowell

Election of George H. Collier as president of Root-Lowell Corp., Chicago, was announced recently. Mr. Collier, formerly vice-president of Dobbins Manufacturing Co., is now making his headquarters in Chicago. Other executives elected by Root-Lowell are C. C. Allen, vice-president for sales; Ray J. Berg, secretary and treasurer; Richard F. Brush, sales manager; and Robert W. Merritt, assistant sales manager.

Offers Custom Packaging

Automatic Packaging Corp., Los Angeles, recently announced availability of an automatic custom packaging service for small and medium sized products, including soaps and other powders, in plastic, foil, or heat sealed paper bags up to 5¼ x 13 inches with a capacity ranging from one gram to one pound.

The organization was formed by Ajax Hardware Manufacturing Corp. as a result of difficulty experienced in securing proper packaging for its own products. Packaging is executed under controlled conditions insured by air conditioning and other measures. The firm offers, in addition, a complete packaging supplying package service from design to shipping cartons. Warehousing and shipping facilities are available, as well as devices for coding, dating, etc.

Warns on Cyanide Polishes

Silver polish containing cyanide was the subject of a recent warning issued by L. M. Walsh, secretary of the California State Board of Pharmacy. At least four deaths have been reported in San Mateo and Santa Clara counties resulting from the use of cyanide polish, according to the Board. Mr. Walsh stated that the board has ordered all stocks withdrawn from sale to the public and warned dealers that sale of the polish for non-commercial purposes is illegal. Board inspectors, he said, have confiscated the polish and returned it to its makers. Among four door-to-door salesmen in Los Angeles who were charged with misdemeanors for failure to register the sale of a polish containing a toxic material and failure to label the polish with the antidote as required by law, were two selling a polish called Lemcke's "Dip-N-Rinse," made by Bel-Air Products, Houston, Texas.

Mississippi Revises Forms

Revised forms for power of attorney required by house bill No. 612 have recently been issued by the Department of Justice of Mississippi. Under the Mississippi Economic Poisons Act of 1950 the bill requires that a non-resident manufacturer designate the Secretary of State a resident agent for service of process. The first form submitted to manufacturers was held to be too inclusive. The new form was devised after representatives of the Chemical Specialties Manufacturers Association conferred with Mississippi officials.

Leon A. Kolker Retires

Diamond Alkali Co., Cleveland, recently announced reorganization of its subsidiary, Kolker Chemical Works, Inc. Leon A. Kolker, founder and president of Kolker Co., has announced his retirement effective August 31. Activities of J. G. Grunton, in charge of Kolker sales, and Charles H. Kolker, in charge of operations and engineering, are being coordinated under A. L. Geisinger, Diamond Alkali vice-president in charge of organic chemicals division.

Two New Genetrons Offered

General Chemical Division, Allied Chemical and Dye Corp., New York, recently announced initial production of trichloromonofluoromethane and dichlorodifluoromethane at its Baton Rouge, La., works. These two additions to the line of "Genetron" organic fluorine compounds are being marketed under the trade names "Genetron 11" and "Genetron 12." Both have applications in the aerosol field. General Chemical has been producing "Genetrons" for a number of years as part of its fluorine research and development program. Among them are ethylidene fluoride ("Genetron 100"), and 1,1,1-difluorochloroethane ("Genetron 101"), both dispersants for liquified gas aerosols and other pressure propelled products.

Ayer Handles "Pears" Soap

Distribution of "Pears" soap was taken over recently by Harriet Hubbard Ayer, Division of Lever Brothers Co., New York. "Pears" won the Grand Prix for toilet soap excellency in 1789. To help the merchandising of this oval, dark, transparent soap Ayer issued a booklet on how to get most out of your bath.

Chem. Salesmen's Outing

The Salesmen's Association of the American Chemical Industry is having its final golf outing of the season Tues., September 16, at Hackensack Country Club, Hackensack, N. J., and not in Montclair, as originally planned.

New Venezuelan Detergent

"Kita" a new Venezuelan made washing powder, recommended as an all-purpose detergent, is currently being promoted through newspaper advertisements. Stressing the foaming qualities and chemical action of the product for grease and soil removal, "Kita" is said to be competing directly with "Ace," a detergent made by Procter & Gamble Co., and introduced a short time ago in Venezuela. The pleaseant odor of the product is featured in the newspaper advertising as is the nationalistic appeal. Avertising copy points out that "Kita" is "better than imported" products and that the detergent is "nacional." Las Llaves is the maker of "Kita."

Warwick Wax Changes

Separation of the management of Warwick Wax Co., a subsidiary of Sun Chemical Corp., Long Island City,

GEORGE W. ULLMAN

N. Y., from Warwick Chemical Co., a division of Sun, was announced recently. At the same time it was announced that George W. Ullman, president of Sun has taken over direction of Warwick Wax with the title of president.

Maurycy Bloch, vice-president of Warwick Wax Co., has been elected a director of the Wax company and is in charge of operations, assisted by Dr. John J. Fish, director of research and refining. Warwick is one of the largest producers of high melting point microcrystalline and oxidized waxes with refineries at Chanute, Kans. and Kilgore, Tex. The company is sole world-wide distributor of sugar cane waxes produced jointly by S. C. Johnson and Son, Inc., Racine, Wis., and Cuban American Sugar Co., New York. Warwick also is exclusive distributor of paraffin and microcrystalline waxes produced by the Cooperative Refinery Association, Coffeyville, Kans.

Heads Jerclaydon Sales

Jerclaydon, Inc., New York, manufacturer of rug cleaners, has recently appointed John B. Howey, sales manager for the product "Glamorene."

P&G Sets Up Perfume Unit

New perfume production facilities are being installed by Procter & Gamble Co., Cincinnati, at the firm's St. Bernard factory, it was reported recently. The department will be housed on two floors of one of the present buildings, and will supply approximately half of the company's total perfume needs. But it is being designed so that it may be expanded to handle the firm's total requirements. Previously all of P & G's perfumes were produced at its Port Ivory plant on Staten Island, N. Y.

Alcolac Sales Appointments

American Alcolac Corp., Baltimore, producers of fatty alcohol sulfate detergents, recently announced establishment of two national sales districts. The New York office is being managed by Wiley J. Pickett, while the Chicago office, at 6 North Michigan Ave., is directed by Alfred A. Michaud. The divisional sales managers will report directly to the corporation's main office at Baltimore, Md. Distribution in Los Angeles continues to be handled by Braun Corp. The corporation's Canadian branch has opened new offices and warehouse facilities at 937 Victoria Square, Montreal.

Powell Elects Davies

John Powell Chemical Co., New York, recently announced election of Harold C. Davies to the firm's board of directors. Mr. Davies is president of Calabama Chemical Co., Huntsville, Ala., maker of chlorinated compounds, which are further processed and marketed by the Powell organization.

Detergent Specification

A recommendation that corn cob meal be made optional with corn meal for type III detergents, hand paste and powder, for mechanics use (Federal Specification P-D-221) was announced jointly recently by W. Craig White, chemicals & plastics branch, Research & Development Division, Office of the Quartermaster General, Department of the Army, and Agri-Indus Manufacturing Co., Columbus, O.

ACS Atlantic City Meeting

The American Chemical Society is holding its 122nd meeting in Atlantic City, N. J., September 14 to 19. Presentations in the pesticides subdivision of the division of agricultural and food chemistry include a paper concerned with analysis of human fat for DDT and related substances by Mattson, Spillane, Baker and Pearce, Communicable Disease Center, Public Health Service, Federal Security Agency, Savannah. Bactericidal studies of chlorine are reviewed in a paper by Ingols, Wyckoff, Kethley, Hodgden, Fincher, Hildebrand, and Mandel of Georgia Institute of Technology, Atlanta. This is part of a symposium on disinfection and sanitation in the division of water, sewage, and sanitation chemistry. The symposium also includes a presentation by Hoffman, Surkiewicz, and Chambers of Chemical Corps Biological Laboratories, Camp Detrick, Frederick, Md., on bactericidal action of Movidyn, a new colloidal silver disinfectant. Effects of some environmental variants on the bactericidal action of Movidyn are being reviewed by Chambers, Chambers, and Kabler of Environmental Health Center, U. S. Public Health Service, Cincinnati. Instrumentation and techniques for quantitative ultrasonic studies of bactericidal effects is the subject of a paper by Russell and Buswell, Illinois State Water Survey, and Whitney, University of Illinois, Urbana, Ill.

George Khuner Dies

George Khuner, former chairman of the board of Lever Brothers, Ltd., in Zurich and Paris, died August 21 at the age of 66. He lived in Beverly Hills, Calif., and had been a United States resident for the past 12 years. He is survived by his wife and by a sister.

More Tin for Cans

Can material specifications and quantity limitations established in NPA order M-25 (cans) no longer apply to the use of some additional secondaries of tin plate in can production, according to a recent announcement by the container and packaging division, National Production Authority. The action was taken in amendment 1 to M-25 as amended May 14, 1952, and is in accord with the August 12, 1952 amendment to M-24 which removed the end-use restrictions on tin plate and terneplate.

Can material specifications and quantity usage limitations do not apply to cans or parts of cans or a combination of mill accumulation plate, unassorted temper tin plate, unmended menders, tin plate waste-waste, tin plate waste, terneplate waste-waste, terneplate waste, black plate, black plate rejects, black plate waste-waste, black plate wasters, and black plate waste.

Lueders Honors Bergeron

Marcel Bergeron recently became the fifty-third member of the twenty-five year club of George Lueders & Co., New York. Mr. Bergeron is in charge of manufacturing of perfume compounds and flavors in Canada for Lueders. F. J. Lueders, president of the company, attended the dinner given in Montreal for Mr. Bergeron in honor of the occasion.

Hollingshead Renames Unit

R. M. Hollingshead Corp., Camden, N. J., recently reclassified its industrial-aviation division. It is now known as industrial division, and sells and merchandizes specialty oils, specification corrosion preventives, aviation maintenance products, sanitary products, "H-2" non-inflammable hydraulic fluid and plastic coatings.

Mich. Chem. Names Raufer

Alfred G. Raufer, for the past three years eastern sales manager of the company, was recently named sales director of Michigan Chemical Co., St. Louis, Mich., succeeding Sherman Putnam, who resigned. John L. Giles, vice-president and assistant to Roland P. Place, Michigan president, had been acting sales manager following Mr. Putnam's resignation. Mr. Raufer had been eastern sales manager of the household division of Sherwin-Williams Co., Cleveland, for 10 years prior to joining Michigan Chemical.

N.S.D.A. Meets, Elects

The National Sprayer & Duster Association recently held its seventh annual meeting at which it charted an active program of public relations, market development, and research for the coming year. Guest speaker at the annual dinner was James R. Hile, manager, insecticide division, Acme Quality Paints, Detroit, who discussed methods of searching for and capitalizing on markets for pesticides.

Officers reelected for another one-year term are:

R. B. Chapin, president, R. E. Chapin Mfg. Works, Inc., Batavia, N. Y., president and chairman of the executive board; H. F. Brandt, president, Dobbins Mfg. Co., Elkhart, Ind., vice-president and vice-chairman of the executive board. D. P. Lewis, secretary, H. D. Hudson Mfg. Co., Chicago, treasurer. Frank J. Zink and Earl D. Anderson of Frank J. Zink Associates, Chicago, were counsel and secretary of the association, respectively.

Reelected to the executive board in addition to the officers named were: P. L. Hauser, sales manager, Lowell Mfg. Co., Chicago; C. D. Leiter, vice-president in charge of sales, F. E. Myers & Bro. Co., Ashland, O.; R. W. Merritt, vice-president, Root Mfg. Co., Malta, O.; T. M. Burton, vice-president, D. B. Smith & Co., Utica, N. Y.

S. H. Doggett, Sr. Dies

Sydney H. Doggett, Sr., 54, president of Doggett-Pfeil Co., Springfield, N. J., insecticide manufacturing firm, died of a heart attack in Morristown, N. J., Memorial Hospital, recently. Mr. Doggett was also a director of Doggett-Pfeil of Glen Head, L. I., N. Y., and with Alfred S. Pfeil in 1921 organized Doggett-Pfeil Co., Springfield. He is survived by his wife, Irene; two sons, Sydney H., Jr., and Albert K., and a brother, Reginald L. S. Doggett of San Francisco.

Bruce Earnings Down

A net profit of $1,159,877, equal to $3.92 a common share for the year ending June 30, last, was reported recently by E. L. Bruce Co. and subsidiary, Memphis, Tenn. Earnings in the previous fiscal year were $1,873,116, or $3.69 a share. Results for 1952 include a non-recurring net income in the third quarter arising from net insurance recovery of $330,902 on the company's Nashville properties destroyed by fire in 1951.

for soaps and soap building

for soapless detergents

in cleaning compounds

in dishwashing compounds

for water softening

BLOCKSON
Sodium Phosphates

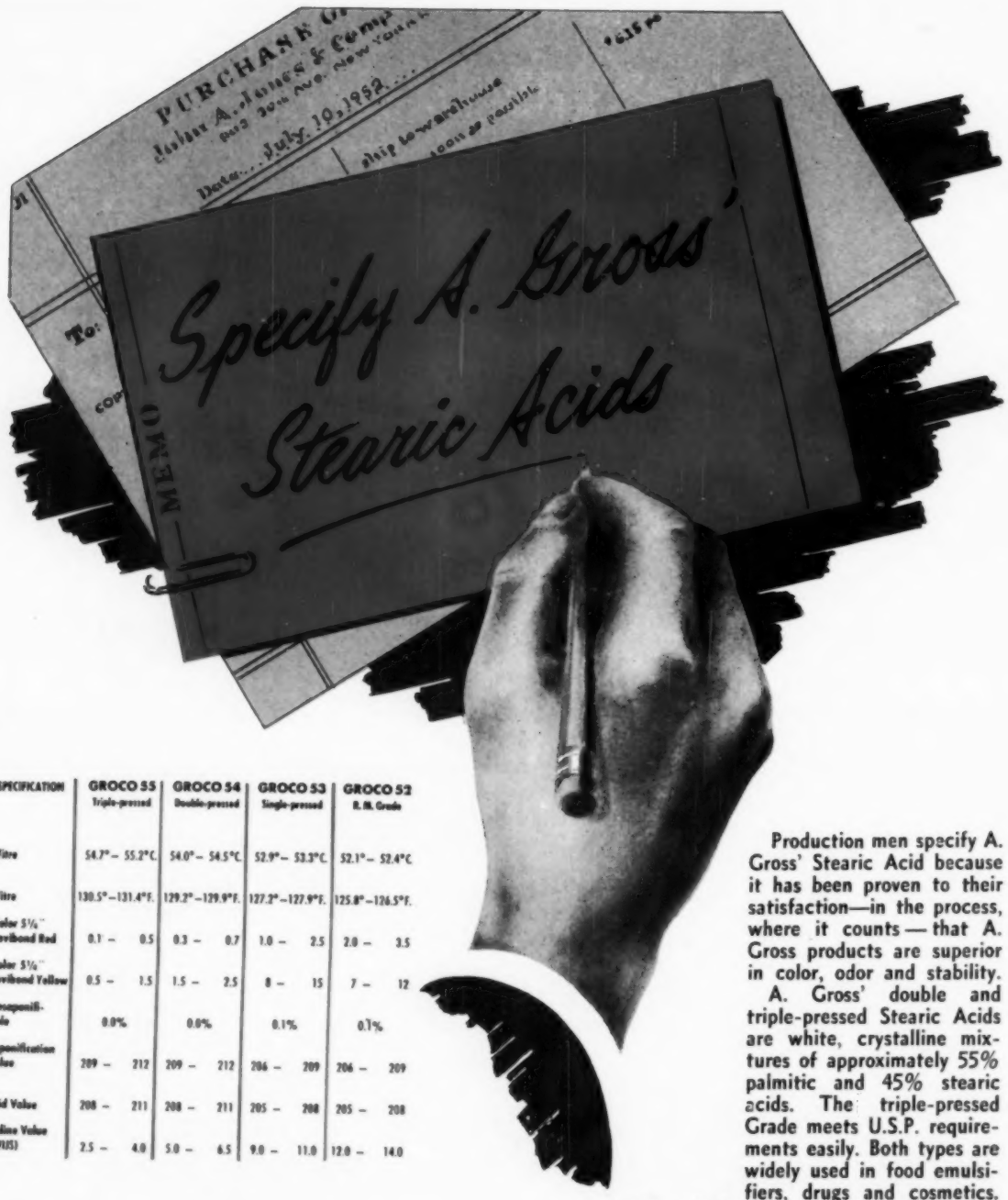
Blockson has made substantial plant additions in its endeavor to keep up with the increasing demand for its SODIUM TRIPOLYPHOSPHATE, TETRASODIUM PYROPHOSPHATE, TRISODIUM PHOSPHATE and for its SODIUM POLYPHOS which is the Blockson brand name for a water soluble, Glassy Sodium Phosphate with the desirable characteristics of Sodium Hexametaphosphate and Sodium Tetraphosphate.

BLOCKSON CHEMICAL COMPANY
JOLIET, ILLINOIS

Blockson Plant . . . Joliet, Ill.

- Sodium Tripolyphosphate
- Tetrasodium Pyrophosphate, Anhydrous
- Sodium Polyphos (Sodium Hexametaphosphate) (Sodium Tetraphosphate)
- Trisodium Phosphate, Crystalline
- Chlorinated Trisodium Phosphate
- Trisodium Phosphate, Monohydrate
- Disodium Phosphate, Anhydrous
- Disodium Phosphate, Crystalline
- Monosodium Phosphate, Anhydrous
- Monosodium Phosphate, Monohydrate
- Sodium Acid Pyrophosphate
- Sodium Silicofluoride
- Sodium Fluoride
- Hygrade Fertilizer

BLOCKSON



SPECIFICATION	GROCO S5 Triple-pressed	GROCO S4 Double-pressed	GROCO S3 Single-pressed	GROCO S2 R. M. Grade
Titre	54.7°– 55.2°C.	54.0°– 54.5°C.	52.9°– 53.3°C.	52.1°– 52.4°C.
Titre	130.5°–131.4°F.	129.2°–129.9°F.	127.2°–127.9°F.	125.8°–126.5°F.
Color 5¼" Lovibond Red	0.1 – 0.5	0.3 – 0.7	1.0 – 2.5	2.0 – 3.5
Color 5¼" Lovibond Yellow	0.5 – 1.5	1.5 – 2.5	8 – 15	7 – 12
Unsaponifiable	0.0%	0.0%	0.1%	0.1%
Saponification Value	209 – 212	209 – 212	206 – 209	206 – 209
Acid Value	208 – 211	208 – 211	205 – 208	205 – 208
Iodine Value (WIJS)	2.5 – 4.0	5.0 – 6.5	9.0 – 11.0	12.0 – 14.0

Production men specify A. Gross' Stearic Acid because it has been proven to their satisfaction—in the process, where it counts — that A. Gross products are superior in color, odor and stability.

A. Gross' double and triple-pressed Stearic Acids are white, crystalline mixtures of approximately 55% palmitic and 45% stearic acids. The triple-pressed Grade meets U.S.P. requirements easily. Both types are widely used in food emulsifiers, drugs and cosmetics.

The single-pressed and R. M. grades find application where darker color and softer texture can be tolerated and cost is an important factor.

Write for samples and our booklet "Fatty Acids in Modern Industry."

A. GROSS & Company
295 MADISON AVE., NEW YORK 17, N.Y.
FACTORY: NEWARK, N.J.

A. GROSS & COMPANY

295 MADISON AVE., NEW YORK 17, N. Y.

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LIQUID DETERGENTS

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Stepan Liquid Detergents and Liquid Detergent Bases can assure you of a product unequaled for flash foam, detergency and foam stability.

PRICE

Attractive pricing . . . ease of compounding and perfuming . . . unusually high percentage of active, all are factors in providing an excellent margin for you.

LABORATORY ASSISTANCE

Our new laboratory facilities are at your service to help you in developing formulations for your particular product.

The Chemicals of Tomorrow . . . Today

The complete new line of Stepan Liquid Detergents and Liquid Detergent Bases provides an exceptional opportunity for bottlers and formulators to cash in on the growing demand for liquid dishwashing detergents and liquid cleaning detergents of all types.

Write for Literature and Samples.

THE STEPAN CHEMICAL CO.

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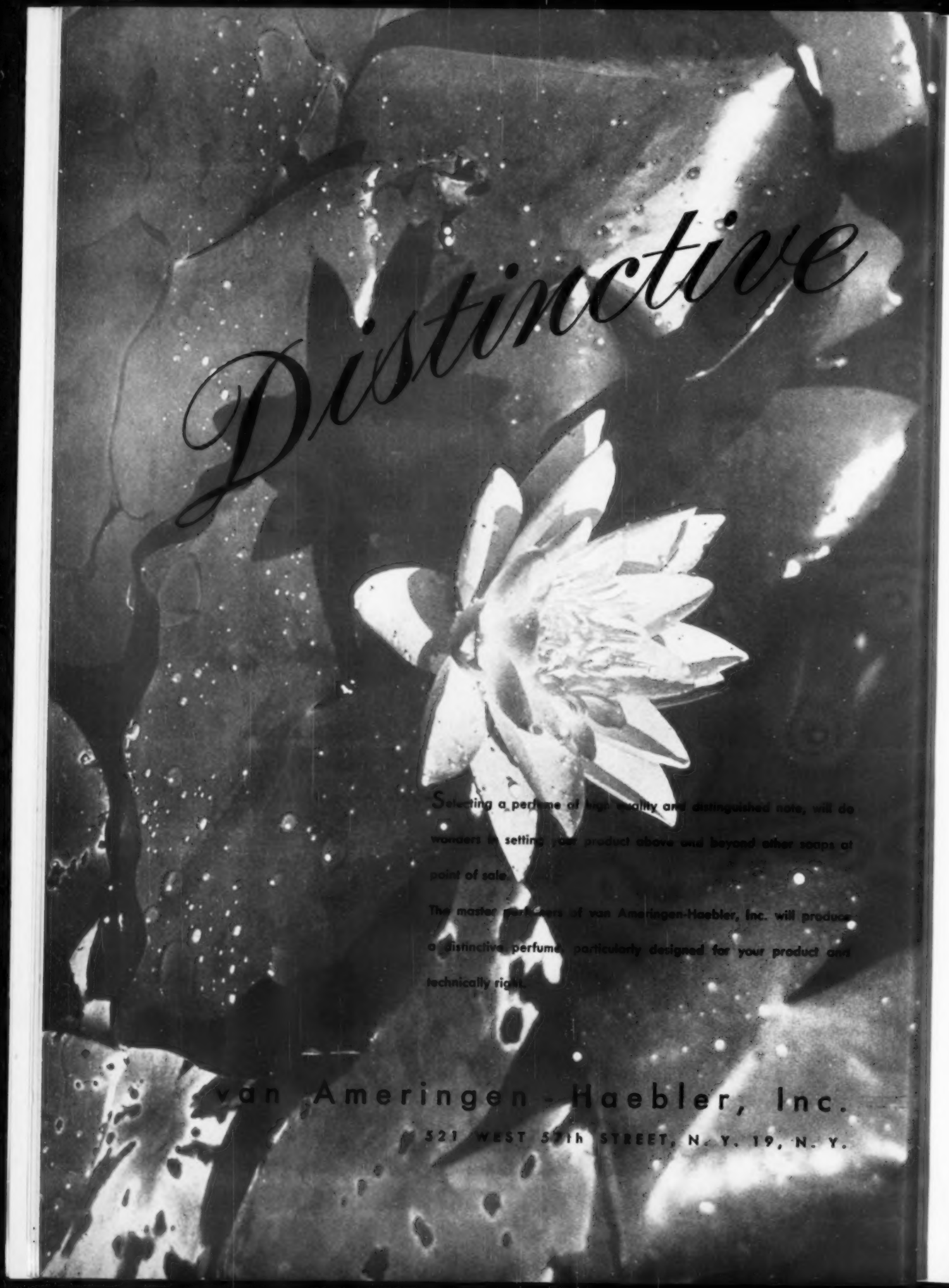
Chicago 23, Illinois


Distinctive
Selecting a perfume of high quality and distinguished note, will do wonders in setting your product above and beyond other soaps at point of sale.
The master perfumers of van Ameringen-Haebler, Inc. will produce a distinctive perfume, particularly designed for your product and technically right.
van Ameringen - Haebler, Inc.
521 WEST 57th STREET, N. Y. 19, N. Y.

ULTRAWET Detergents Mean Quality

In the Dairy Industry
cleanliness is the ideal
and cost the problem

ULTRAWETS
answer both

Atlantic synthetic detergents meet your customers' highest cleanliness standards and tightest budgets. From the milking machine to the milk bottle, there is an ULTRAWET made to satisfy each of your customers' demands. For instance, if you market:

ALKALINE CLEANERS The addition of an ULTRAWET to the alkalis and complex phosphates speeds penetration, enhances detergency, and improves rinsability. Shall it be ULTRAWET SK bead or K flake—each of which is available in two densities? The choice of *which* ULTRAWET is determined by such things as type of mixer used, desired finished product density, and product appearance.

ACID CLEANERS Whether you use phosphoric, hydroxyacetic, gluconic, lactic or citric acid in your milkstone remover—be sure to include ULTRAWET 30 DS in your formulated cleaner. The ULTRAWET 30 DS—or ULTRAWET DS if you prefer a flake instead of the liquid—shows the greatest compatibility with these acids, and speeds up penetration. That means a faster, better job done at a lower cost to you.

We'll be glad to discuss the ULTRAWETS with you and make specific recommendations as to which one will best fit your needs. Write The Atlantic Refining Company, Chemical Products Section, Dept. D-17, 260 So. Broad Street, Philadelphia 1, Pa.

In the East
THE ATLANTIC REFINING COMPANY
Philadelphia • Providence • Charlotte
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On the West Coast
L. H. BUTCHER COMPANY
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In Canada
NAUGATUCK CHEMICALS
Division of Dominion Rubber Co., Ltd.
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ATLANTIC
PETROLEUM
CHEMICALS

Please send complete details on ULTRAWETS.

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Position _____

Company _____

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new and improved VEGETABLE TYPE ACIDS make EMERY your BEST SOURCE!

Whatever your Vegetable Requirement—EMERY HAS IT!

NOW you can find a complete range of compositions and specifications in the expanded line of Emery Vegetable Type Fatty Acids, which now includes cottonseed, soya, corn, palm and coconut types.

Narrower specification ranges, resulting from improved processing techniques and more rigid control methods, assure you of consistent performance in your operation.

To maintain this high quality and uniformity up to the point of use, All Emery Vegetable Type Fatty Acids are shipped in *lined* drums. Where color is of extreme importance, aluminum tank-cars are available for bulk shipments.

Select the proper Emery Vegetable Type Fatty Acid for your needs!

PRODUCT	Titer °C	Iodine Value Wijs	Max. Lovibond Color 5¼" cell	Acid Value	Sap. Value
Emery 600 Distilled Cottonseed Type	34-38	90-110	30Y/15R	197-203	199-205
Emery 610 Distilled Soya Type	24-29	120-125	30Y/8R	195-203	197-205
Emery 614 Distilled Soya Type-Alkyd Grade	18-23	125-130	20Y/5R	193-201	195-203
Emery 618 Dist. Soya Type-Super Alkyd Grade	18-23	135-140	20Y/5R	195-201	197-203
Emery 621 Distilled Coconut Type	22-26	8-18	30Y/6R	255-266	257-268
Emery 622 Double Distilled Coconut Type	22-26	8-15	10Y/2.5R	258-270	260-272
Emery 630 Distilled Corn Type	28-33	105-120	30Y/10R	195-201	197-203
Emery 640 Distilled Palm Type	43-46	45-55	35Y/15R	199-205	201-207

Emery

Fatty Acids & Derivatives
Plastolein Plasticizers
Twitchell Oils, Emulsifiers

Emery Industries, Inc., Carew Tower, Cincinnati 2, Ohio

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Branch Offices
3002 Woolworth Bldg., New York 7, N. Y.
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Warehouse stocks also in St. Louis, Buffalo, Baltimore and Los Angeles

FOR *Quality* THAT BUILDS CUSTOMER SATISFACTION AND REPEAT PROFITS...

Feature

PURO

Deodorants

MORE ECONOMICAL... LONGER LASTING

MADE OF 100% PURE PARADICHLOROBENZENE FUSED WITH FINE LONG LASTING PERFUME OILS ON HUGE MODERN POWER PRESSES. ATTRACTIVELY PACKAGED!

OUTSTANDING SELLER FOR EVERY PUBLIC USE

PURO 4 OZ. DEODORANT BLOCKS—

Most popular size and shape, for urinals and general use. Made to U. S. Navy specification MIL-D-2178. Attractive cellophane wrap and special tube containers protect from evaporation. Available in pleasant Surf, Lilac and Rose colors. Economical—long lasting.

EXTRA PROFITS FROM THIS EXCLUSIVE SPECIALTY

PURO SANA-BOLE DEODORANT—

Banishes odors at their source. Patented "Snap-on" wire hanger holds cake securely in bowl and practically out of sight. Delicate flower-like fragrance. Ideal for home, hotel and public toilets —a much larger market than urinal blocks. A sensational repeater, 4 oz. cake.

NEW HEAVY DUTY HANGER BLOCKS

PURO JUMBO DEODORANT BLOCKS—

By popular demand, now available in 8, 12, 16 and 24 oz. cakes which are effective longer over a larger area. The three larger blocks come in convenient hanger containers. Cellophane wrap prevents evaporation before use. In clean smelling Surf, Lilac and Rose.

THE *Puro* COMPANY, Inc.

(ESTABLISHED 1929)

2801 LOCUST STREET **ST. LOUIS 3, MO.**

WRITE FOR SAMPLES AND JOBBER PRICES

Synalyl D

Description

A colorless liquid aromatic with an odor that suggests a highly refined Linalyl Acetate from Bois de Rose.

Specific gravity at 25/25° C. ..... 0.969 to 0.971

solubility: Insoluble in water. Soluble in 95% ethanol and all essential oils.

Now Available! a new and inexpensive basic raw material

SYNALYL D is an interesting aromatic possessing the many inherent advantages that promise an active future in toiletries. Completely replacing Linalyl Acetate in Eau de Cologne, SYNALYL D has been found to give finer, fresher and, in general, more satisfactory results. AND this is accomplished at approximately one half the current price of Linalyl Acetate! This new aromatic can also be used to great advantage in Jasmin, Orange Blossom and Lilac type compositions. It has proved to be stable in soap and similar cosmetic preparations.

Note:

Another fact of interest to the trade: SYNALYL D is made from domestic materials, therefore is not subject to the usual fluctuations of price and availability.

THE DOW CHEMICAL COMPANY

Aromatics Division • 629 Grove Street • Jersey City 2, N. J.
Dow Chemical of Canada, Limited, Toronto, Canada

DOW

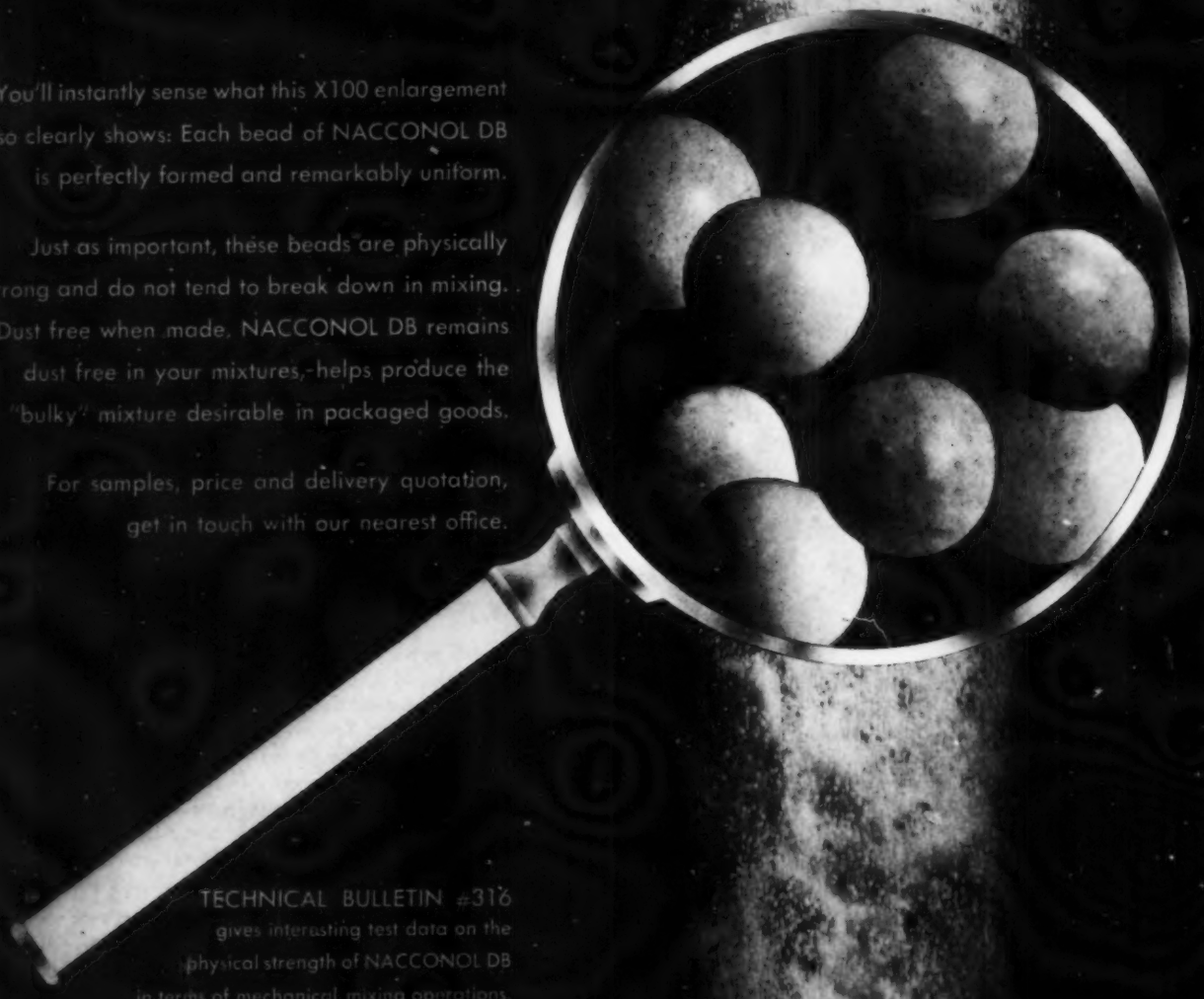
Exclusive Sales Representative for SYNAROME *in the United States, Canada and Cuba*

amazingly free-flowing

and strong

Nacconol DB

AMERICA'S LEADING SYNTHETIC DETERGENT



You'll instantly sense what this X100 enlargement so clearly shows: Each bead of NACCONOL DB is perfectly formed and remarkably uniform.

Just as important, these beads are physically strong and do not tend to break down in mixing. . Dust free when made, NACCONOL DB remains dust free in your mixtures,-helps produce the "bulky" mixture desirable in packaged goods.

For samples, price and delivery quotation, get in touch with our nearest office.

TECHNICAL BULLETIN #316 gives interesting test data on the physical strength of NACCONOL DB in terms of mechanical mixing operations. Get your copy from our nearest office.

NATIONAL ANILINE DIVISION

ALLIED CHEMICAL & DYE CORPORATION

40 RECTOR STREET, NEW YORK 6, N.Y. • BOwling Green 9-2240

caustic potash

consistently low in iron, copper, nickel.. purity you can depend on for quality soap

With caustic potash that's virtually free of impurities, you can produce soap of the quality that wins and keeps consumer loyalty. You can depend on *International* for caustic potash in the purity you want. You can always be sure of shipments to your exact specifications, in the quantities you need, and with deliveries when you request them. Whatever grade of caustic potash you need, whether for soap or any other product, you'll find *International* a dependable source of supply because of its large and efficient facilities for mining, refining and manufacturing of potash and potash chemicals.

FOR SOAP MAKING

Special low iron grade—45 to 50%.
Available in 675 lb. drums and tank cars.

FOR GENERAL CHEMICAL USE

Solid—90%. Available in 700 lb. drums.
Flake—90%. Available in 100, 225 and 400 lb. drums.
Granular—90%. Available in 100, 225 and 500 lb. drums.
Broken—90%. Available in 100 and 450 lb. drums.
Liquid, low iron, a sparkling clear water-white solution of 45%. Available in tank cars and 675 lb. drums.
American Selected Walnut. Available in 100 and 225 lb. drums.

manufacturing
refining
mining

CAUSTIC POTASH
all standard grades

CARBONATE OF POTASH
all standard grades

POTASSIUM CHLORIDE
refined and technical grades

SULFATE OF POTASH

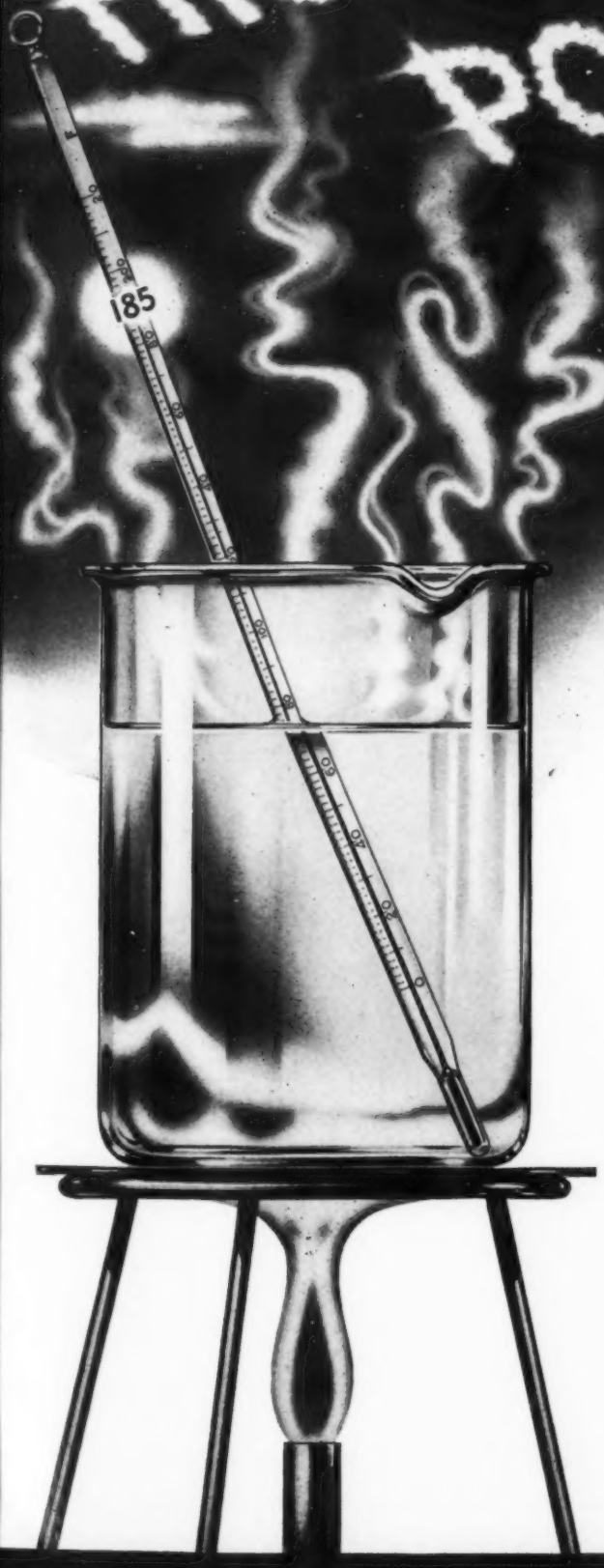
LIQUID CHLORINE

FERRIC CHLORIDE

INTERNATIONAL MINERALS & CHEMICAL CORPORATION

Address all inquiries to Industrial Sales Dept., Potash Division
General Offices: 20 North Wacker Drive, Chicago 6
61 Broadway, New York 6

HIGHER CLOUD POINT



FOR BETTER HOT BATH CLEANING WITH . . . . .

TRITON X-102

Newest *non-ionic* detergent offered by Rohm & Haas for formulation in metal cleaners has two important requirements for efficient metal cleaning:

a. A cloud point in the 185°-190°F range is right in line with high cleaning tank temperatures.

b. Detergent activity, like that of TRITON X-100, is outstanding for the following metals:

Aluminum	*Steels:*
Brass	*bonderized*
Copper	*furniture*
Iron	*passivated*
Zinc	*stainless*

Write for samples and detailed information. This material has been previously offered as Experimental Detergent 9X-102.

TRITON *is a trade-mark, Reg. U.S. Pat. Off. and in principal foreign countries.*

CHEMICALS FOR INDUSTRY

ROHM & HAAS COMPANY

WASHINGTON SQUARE, PHILADELPHIA 5, PA.

Representatives in principal foreign countries

FIRST FOR WHITENESS

. . . in any desired shade

. . . with any desired properties

the CALCOFLUOR* *whitening agents*

Choose from among four different *Calcofluor* whitening agents and get just the shade you want, the degree of bleach fastness you prefer, and the visible whiteness properties that make for repeat soap and detergent sales.

Whatever Calcofluor you select, you can be sure of its efficiency in absorbing ultraviolet light without absorbing any appreciable amount of visual light. Good leveling characteristics and excellent fastness to hypochlorite can be assured by the proper selection from the Calcofluors shown below:

	Hue of Laundered Fabric	Bleach Fastness	Effect on Color of Soap Product	Substantivity
CALCOFLUOR WHITE B	neutral blue	good	slight yellowing	cotton, viscose
CALCOFLUOR WHITE MR	slightly reddish blue	fair	whitens	cotton, viscose
CALCOFLUOR WHITE 4B	slightly greenish blue	excellent	no effect	cotton, viscose
CALCOFLUOR WHITE RW	neutral blue	fair	strong whitening	nylon, acetate, wool

Your Calco representative will be glad to supply full information and samples.

*Trade-mark

Calco

AMERICAN Cyanamid COMPANY

CALCO CHEMICAL DIVISION, DYESTUFF DEPARTMENT

BOUND BROOK, NEW JERSEY

REPRESENTED IN CANADA BY: NORTH AMERICAN CYANAMID LIMITED. CALCO CHEMICAL DIVISION MONTREAL—TORONTO

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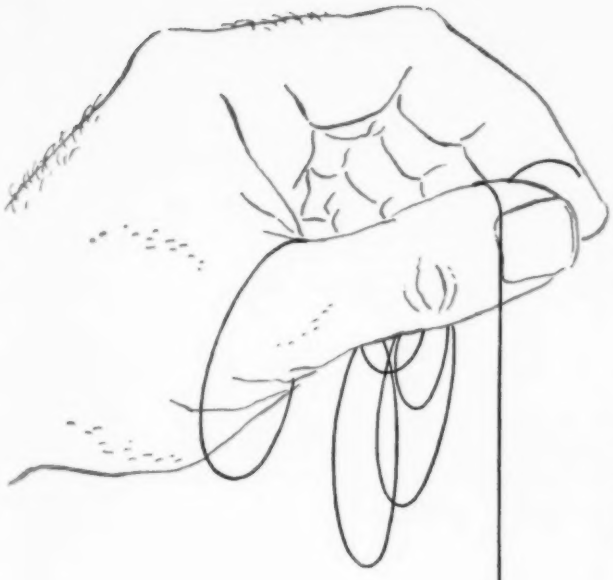


Metso Detergents— starting point for good formulas...

Metso Detergent Silicates are the right foundation for a wide variety of cleaners, washing compounds and synthetic detergents. You get improved performance, greater distinctiveness and for some mixtures, lower cost. Here are three advantages of using Metso Silicate base for private formulas:

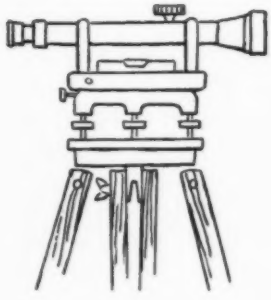
- Soluble silica content acts hand-in-hand with synthetic detergents to protect metals from attack.
- Metso takes out more dirt and keeps it from re-depositing.
- Attractive white, free-flowing granules blend easily with soaps, phosphates, other alkalies, synthetic detergents.

It's time to survey your formulas. Clip the coupon for free bulletins on Metso Detergent Silicates for compounders.

PHILADELPHIA QUARTZ COMPANY
1152 Public Ledger Bldg., Philadelphia 6, Pa.

Metso **Detergents**
PQ SOLUBLE SILICATES

starting point...



PHILADELPHIA QUARTZ COMPANY
Public Ledger Building
Philadelphia 6, Pa.

Please send free bulletins on Metso Silicates for compounding use.

Name_____

Company_____

Address_____

City_____ Zone____ State_____

See SOLVAY for CAUSTIC POTASH!

SOLVAY

CAUSTIC POTASH

- 49-50% Liquid in Tank Cars
- 45% Liquid in Drums
- 90% Solid and Flake

LOW IN IRON and other impurities

If you make specialty soaps, see SOLVAY *first* for your supply of CAUSTIC POTASH. SOLVAY offers you helpful assistance . . . dependable delivery . . . and Technical Service specializing in the applications and uses of CAUSTIC POTASH. See SOLVAY for CAUSTIC POTASH!

SOLVAY PROCESS DIVISION

ALLIED CHEMICAL & DYE CORPORATION

61 Broadway, New York 6, N. Y.

BRANCH SALES OFFICES:

Boston • Charlotte • Chicago • Cincinnati • Cleveland • Detroit
Houston • New Orleans • New York • Philadelphia • Pittsburgh
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Soda Ash
Caustic Soda
Caustic Potash
Chlorine
Potassium Carbonate
Calcium Chloride
Sodium Bicarbonate
Specialty Cleansers
Sodium Nitrite
Monochlorobenzene
Para-dichlorobenzene
Ortho-dichlorobenzene
Ammonium Bicarbonate
Ammonium Chloride

Now! You may have good profits and enduring sales easier, because—

CARNAUBA IS HYDRAOXATED INTO SAFE FLOOR DRESSING

Precious carnauba

Brazilian natives harvest the carnauba palm tree's waxy fronds. Each palm frond, after it is dried and threshed, yields only a few precious ounces of the raw carnauba.

PERFORMANCE RECORD PART OF *BIG* SALES STORY

GLOSS (Unbuffed)	E	REMOVAL (Detergent scrubbing)	C
GLOSS (After buffing)	E	ANTI-SLIP	E
MAR RESISTANCE	E	EASE OF APPLICATION	E
WATER RESISTANCE	E	HEALING	E

E-Excellent C-Complete

B★SAFE

Hydraoxated Carnauba Floor Dressing

No silicas or abrasives added . . . the slip is hydraoxated out!

THE selling is easier when you feature, under your own private label, this self-lustre, hydraoxated carnauba floor dressing.

Think of the sales impact you command when you can say, "My floor dressing is extra safe . . . because the slip has been hydraoxated out of carnauba. In every kind of weather you enjoy beautiful, safe floors . . . even under wet shoes."

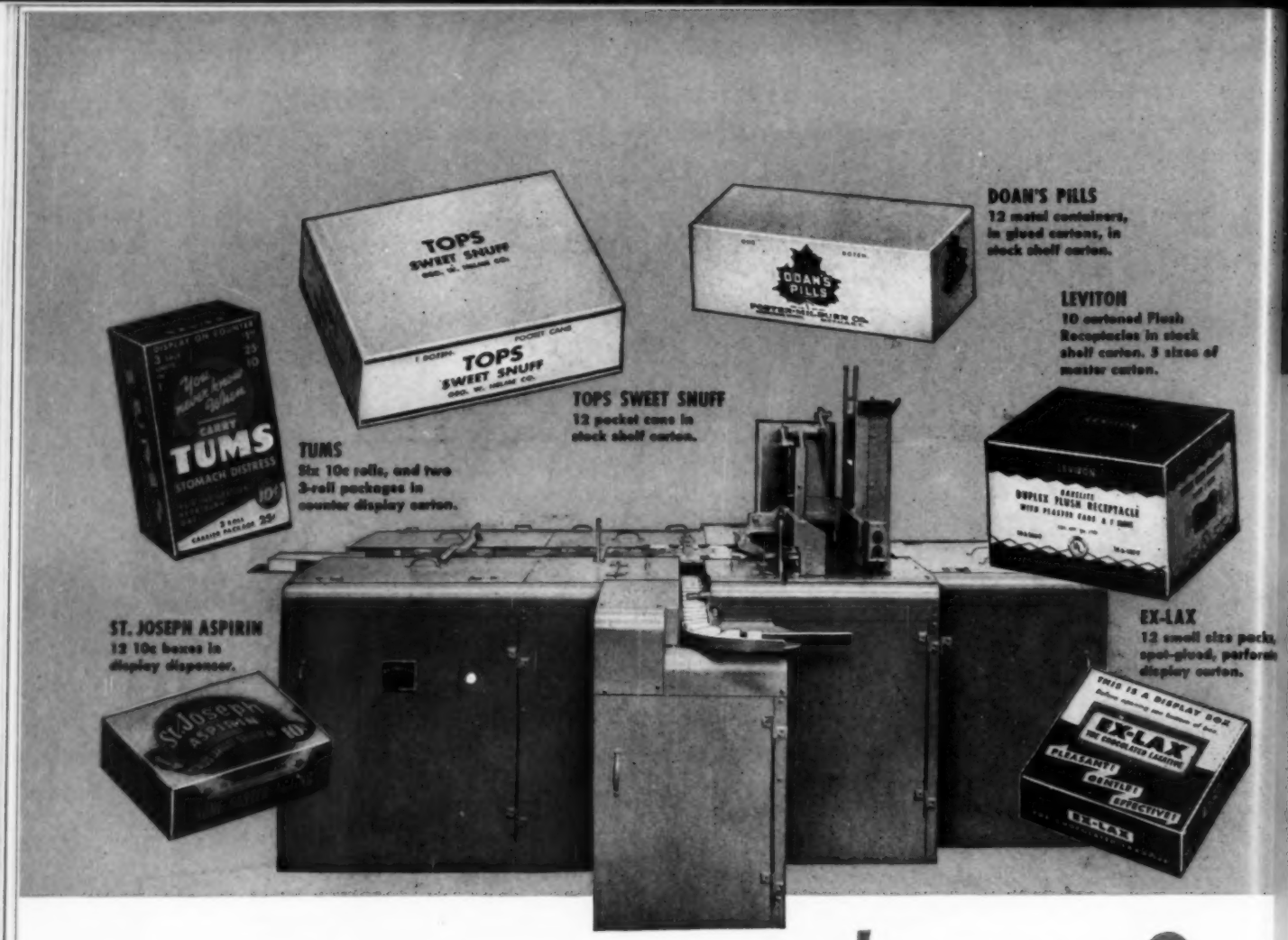
That is enough to gain a customer trial. But there is more, much, much more in our sales program to help you quickly attain enduring sales volume.

Write, wire or phone today. Your territory may still be open for distribution.

Listed anti-slip floor treatment material by Underwriters' Laboratories, Inc.

Chemical Service of Baltimore

HOWARD & WEST STREETS ★ BALTIMORE 30, MARYLAND


TOPS
SWEET SNUFF
TOPS
SWEET SNUFF
DOAN'S PILLS
12 metal containers, in glued cartons, in stock shelf carton.
LEVITON
10 cartoned Flush Receptacles in stock shelf carton. 3 sizes of master carton.
TOPS SWEET SNUFF
12 pocket cans in stock shelf carton.
TUMS
Six 10c rolls, and two 3-roll packages in counter display carton.
TUMS
STOMACH DISTRESS
ST. JOSEPH ASPIRIN
12 10c boxes in display dispenser.
EX-LAX
12 small size packs, spot-glued, perforated display carton.
EX-LAX
THIS IS A DISPLAY BOX

DO YOU PACK IN *dozens?*

As THE PRODUCTION RATE of packaging lines has increased, more and more operators are needed to get the product into the master carton for shelf storage or display. This costly operation is completely mechanized by the Jones Accumulator Cartoner. The flexibility of the basic machine permits its adaptation to wide variations in size, quantity, and arrangement of loads. It offers users money-saving and money-making advantages:

Receives individual containers automatically from preceding machine.

Stacks in prescribed arrangement — automatically insures correct count.

Feeds, opens and loads master carton—closes end flaps by tucking or gluing.

Prints control or catalog numbers, color, flavor or other variable information, simplifying carton inventory.

Produces rigid, tamperproof, sealed containers, difficult to obtain by hand packing.

For display cartons, a skip-glued longitudinal seam insures easy opening and proper set-up, without mutilating carton.

Fully automatic, the Accumulator Cartoner usually requires only part-time attention. Seventy-five percent or more of operator's time available for packing master cartons into shipping containers.

High operator efficiency justifies Accumulator Cartoner for output of only one line.

Speeds of 5 to 100 master cartons per minute enable one cartoner to handle output of two or more lines where needed, eliminating from 2 to 15 operators.

R. A. JONES & COMPANY, INC.

Cartoning Machines — Strip Pressers

Ask us for detailed information, or submit your problems to Jones' experienced cartoning engineers for prompt diagnosis.

P. O. BOX 485, CINCINNATI, OHIO

. . . in brief

as the editor sees it . . .

HOLD YOUR HATS . . . During the past six months, soap prices on the whole have shown greater stability than for any period of the past ten years, excepting OPA days. The market has remained steady and price changes negligible. But, just ahead looms the introduction to market of a new product or two which could change this scene of apparent tranquility. For the past two months, intensive couponing has slacked off just at the time when we thought manufacturers were about to give away their factories and machinery for two-bits and a box top. Now, all this could change and by the middle of October, the battle royal with no holds barred could be with us again, and the industry could resume its give-away orgy. Peace and quiet may end any day now, so hold your hats, kids! Here we go again!

REVOLUTION . . . How far is this revolution in the soap industry going to go? Week after week, we hear that the old order in soap manufacture after a century or two with only minor basic changes, now really is on its way out. At a recent conference with a delegation of French soap and glycerine producers in New York, a prediction was made that by 1965, kettles in both large and small soap plants would be obsolete. In their places would be the ever-expanding continuous processes now in operation for the production of neat soap. In the smaller plants, eventual complete replacement of kettles by colloid mills and other forms of homogenization equipment for the continuous production of potash soaps, shampoos, and other specialties was predicted. Fatty acids and derivatives would replace the use of whole oils completely.

In the life of ordinary soap plant equipment, thirteen years is not a long time, and that's all the years there are to 1965. Some machinery in soap plants we know looks like it might have been brought to America by Columbus, and it's still running. We believe that unless its operators are forced to junk it by high costs and competitive conditions, a lot of it still will be running in 1965. Nevertheless, the hand writing is certainly on the wall. Tempus fugits, and the good, old days in soap making are fugiting along with tempus. But, don't call in the junk man and sell the old plant tomorrow. Wait a few days and keep a sharp eye on the horizon.

MIRACLES . . . Americans are getting fed up on miracles, whether it be a new detergent or a gadget which cuts the lawn, feeds the baby, and plays music all at the same time. Experience with many new things over the past few years, and this goes also for some detergents, has proved that not all the high-sounding claims made by merchandisers are completely accurate. Sure, the new detergent does a wonderful job on the dishes, and on the old-man's overalls, but what it does to Mrs. McGuff's hands is not a miracle.

So much high-powered advertising has been used of late to jam products onto the market that the public as a whole, we have a hunch, discounts it all at a very high percentage. Thus, when we noted an advertisement recently for plain "honest soap—honestly priced," which took a poke at the "high priced 'miracle' soap substitutes," we figured it was about due.

Nothing does a product more harm than to have "miracle" properties claimed for it, and then to have Mrs. McGuff find out herself that it also has an Achilles heel or two. So, once again, we advise lining up a few dozen of the "miracle" copy writers at dawn some day soon and giving them the works. And then put the word, "miracle," on the verboten list for their successors!

NO BETTER . . . According to the buyer of maintenance chemicals for a large realty project who bearded us in our den recently, the character of selling by sanitary supply and janitor supply firms to the consumer is getting no better fast. Loaded for bear, he regaled us with a dozen instances of bad selling, plain ignorance of products, absurd claims—all, he insists, an insult to his intelligence. If there has been improvement in the type of salesmen or the character of selling, the gentleman says he has failed to observe any evidence to support this view.

We disagree with this buyer for the simple reason that we knew what sanitary supply selling was twenty-five years ago. Maybe it is not to his liking today, but we can assure him it is manifestly superior to what it was twenty, ten, or even five years ago. But, with his contention that current selling still leaves wide room for further improvement, we have to agree. Too many order-taking peddlers are still with us. We've watched them operate and know whereof we write. It's a long road ahead and we have only covered a small portion of it up to now.

LAWS, AND MORE LAWS . . . Federal, State and now municipal regulations, laws and ordinances have reached out in ever increasing areas to regulate the sales of household chemical specialties. Following the enactment of the Federal Insecticide, Fungicide and Rodenticide Act of 1946, which Agriculture Secretary Brannan now proposes to be made more inclusive, State legislative mills have stepped up their output of laws designed to control and tax sanitary chemicals still further.

The most recent trend in what seems to be a nation-wide plot to harass manufacturers of these products is action on the part of various cities to enact special legislation covering insecticides, cleaning compounds, and the like. New York City has tightened its restrictions on carbon tetrachloride by requiring new and additional labelling. Cleveland has just ordered manufacturers of thermal vaporizers to meet the standards recommended by a government committee, and Dallas is reported taking similar steps. Some feel the Dallas statute would cover certain types of aerosols as well as the conventional insecticide vaporizers.

Where this wave of chemical specialty control legislation will lead, we do not know. It does seem obvious, however, that manufacturers of these products are in for some of the roughest days of their business lives.

CLEANLINESS SLOGAN . . . The Soap Association is looking around for a suitable slogan for use in its cleanliness promotion which ties in cleanliness with health. Off hand, it appears to be a cinch. But, the Association is well aware of the attitude of public health doctors generally that good health is not of necessity the result of cleanliness. They remember well the eighty year old Seminole Indian in excellent health who never had a bath in his life—and who probably wore his scanty unwashed clothes until they dropped off. At the same time, they know that by and large where soap use is highest and cleanliness greatest, health is better and disease incidence lower.

Health may not be the direct result of cleanliness alone, but where we have one, the record would seem to indicate that we also have the other. A higher esthetic level invariably accompanies scientific progress, be it medical or otherwise. So, without further ado, we cast our entry into the ring, a memorable contribution to the cause of cleanliness slogans: "Cleanliness and health go hand in hand." And, we defy the medicos and public health boys to knock that one down!

PINE OIL . . . In the midst of plenty, pine oil continues scarce. The sanitary chemical manufacturer who depends on pine oil for several important uses views the market with a fishy eye. If practically everything else is running out of our ears, why not pine oil? The answer is rosin, or rather reduced rosin production. When demand for rosin fell off some months back, production schedules were cut down. Less rosin meant less turpentine and pine oil. Then, with stocks continuing small, demand for pine oil perked up in several places, notably in the textile industry. This has meant less pine oil at higher prices for the disinfectant and cleanser manufacturer. The reduced supply could last for another several months at least. And that, in a nutshell is the story of pine oil.

as the reader sees it . . .

Confusion and Consternation!

Editor:

Now, tell me, which is which? On Page 146 of the August issue of your publication is a picture bearing the caption, "W. R. Zellner." Again on Page 165 is the same picture bearing the caption, "T. H. Risk." Isn't life confused enough as it is without you trying to confuse your readers further? In all fairness to Messrs. Risk and Zellner, I think you should tell us which is who.

Friar Thompson
Prentiss Drug & Chemical Co.
New York

* * *

Both pictures are Mr. Zellner. Elsewhere in this issue is a picture of Mr. Risk with explanatory details. The printer double-crossed us. He lost the original cut of Mr. Zellner. We had a duplicate made. He then found the original and put them both in the magazine, losing Mr. Risk's cut in the shuffle. Our apologies to both gentlemen, and thanks to Mr. Thompson and 672 others for calling this error to our attention.—Ed.

* * *

Who's Who?

Editor:

In your August issue, please turn to pages 146 and 165. Who's who?

Louis Campagnoli
Templar Oil Products Co.
South River, N. J.

* * *

Et tu, Louis? Please note our reply to Mr. Thompson.—Ed.

* * *

Tallow Marketing Report

Editor:

Will you please advise us as to how we should make reference to obtain the U. S. D. A. 44-page booklet concerning new processing methods and improvements for turning tallow and grease into chemicals for better serving industry.

James E. Gill
Gil-Mor Chemical Co.
Dallas, Tex.

* * *

The report referred to by Mr. Gill "Marketing of Nondrying Industrial Fats and Oils as Affected by Processing Methods," is obtainable from the U. S. Department of Agriculture, Production and Marketing Administration, Fats and Oils Branch, Washington 25, D. C. We suggest you contact C. B. Gilliland, Chief, Research Division.—Ed.

* * *

Castile Soap

Editor:

I have heard a lot of conversation the past several years about what makes up a castile soap. Could you give me an up-to-date definition of "castile" and/or castile-type soaps? I believe that we wrote you about this a few years ago, but can't locate the information right now.

Some times I wish that I were in the publishing business and had nothing else to do but just have people address questions to me.

J. H. W.
Milwaukee, Wisc.

* * *

Because this gentleman is head of a well-known soap company, we shall keep his name a dark secret. Otherwise, some publisher or editor might sneak in and quietly dent his skull. And his company needs him,—or so he contends.

Legally, castile soap today is just about any kind of soap at all. The famous court decision in the case of the Federal Trade Commission vs. Kirk (later P&G) of about twenty years ago, in effect made the term, "castile soap" meaningless. It is generally considered to apply to any toilet soap as the maker may choose. The court decision in question applied to a straight coconut oil toilet soap.

In the soap industry itself, the

(Turn to Page 155)

"Now we won't hafta fix de roof, boss. I jus' moved de mixer!"

A Thirty-Year History of
The Bureau of Raw Materials

THE Bureau of Raw Materials for American Vegetable Oils and Fats Industries was organized in June of 1921 by a group of soap makers headed by the late Colonel William Cooper Procter. Among other soap makers in the group were Russell Colgate, treasurer of Colgate and Co., Jersey City, N. J.; Francis A. Countway, president of Lever Brothers Co., Cambridge, Mass.; Samuel S. Fels, president of Fels and Co., Philadelphia; Caleb E. Johnson, president of Palmolive Co., Milwaukee; Sidney A. Kirkman, president of Kirkman and Son, Brooklyn; A. W. Peet, president of Peet Brothers Manufacturing Co., Kansas City, Kans.; E. G. Holloway, president of James S. Kirk and Co., Chicago; John A. Berghoff, general manager of Rub-No-More Co., Fort Wayne, Ind.; Louis A. Waltke, president of William Waltke and Co., St. Louis; and Frank Merrill, president of Los Angeles Soap Co., Los Angeles.

On April 11, 1921, the Sixty-seventh Congress (Republican) took up H. R. 2435, which when finally enacted into law on May 27, 1921, was known as the Emergency Tariff Act. It levied new or heavily increased duties on a wide range of agricultural products including several vegetable oils. Coconut oil was the only one of these vegetable oils which was of particular interest to soap makers. It was assessed a duty of 20 cents per gallon. While refined deodorized coconut oil had previously borne a tariff duty of 3½ cents per pound under the Tariff Act of 1913, this duty was intended for the protection of the domestic refiners of coconut oil and did not affect soap makers. The Emergency Tariff Duty, however, applying to crude coconut oil as it did, was of serious concern to soap makers because of the heavy importations which had been coming into the United States from the Dutch East Indies and Japan.

The Sixty-seventh Congress having completed its work on the Emergency Tariff Act was preparing to begin full scale revision of the Tariff Act of 1913. There was a widespread belief in the soap industry that the heavy duties assessed upon cottonseed, soybean, peanut and coconut oil were merely a prelude to what would happen when full scale revision of the Tariff Act of 1913 was put under way. It was feared that copra, palm oil, palm kernel oil, sulfur olive oil, and tallow would be swept from the free list as had crude coconut oil and that other miscellaneous soap-making fats and oils, such as whale and fish oils, then bearing moderate rates of duty, would be assessed at a much higher level. Therefore, a meeting was called in June, 1921, at the Congress Hotel in Chicago, at which it was decided that the soap industry would enter into a concerted effort to protect its imported raw materials supply.

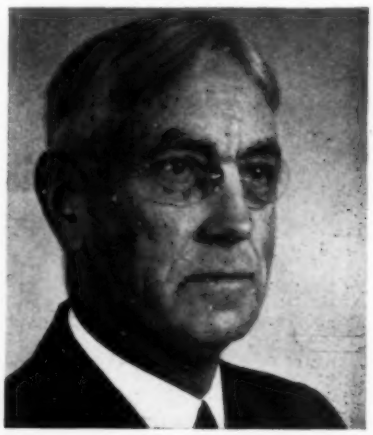
C. R. Brown Called In

DURING the time that the Emergency Tariff Act was being formulated in the spring of 1921, the late C. Rogers Brown of New York and Seattle had been doing what he could at Washington to stave off the imposition of high tariff duties on imported vegetable oils. In this work he had the backing of the Foreign Commerce Association of the Pacific Coast which numbered among its member-

FRANCIS A. COUNTWAY

SAMUEL FELS

RUSSELL COLGATE



By John B. Gordon
Washington Representative

ship importers of coconut and other vegetable oils, such as peanut oil, chinawood oil, etc., along with oilseeds, including copra. Some of these firms crushed copra and miscellaneous oilseeds. There were manufacturers of paint and varnish in its membership. During World War I Mr. Brown had been the president of Rogers Brown and Co. of Seattle, the largest American firm engaged in the importation of oriental oils during that period. He had organized the East Waterway Dock and Warehouse Company, the first bulk imported vegetable oil terminal to be established in the United States. Mr. Brown had done much business with soap makers and was well known throughout the industry. When, therefore, the soap makers assembled at Chicago, they invited him to be present and advise with them on the basis of his experience with the Emergency Tariff Act.

On Rogers Brown's suggestion the soap-maker group agreed to merge with the Foreign Commerce Association of the Pacific Coast, and since there would be other manufacturing consumers of oils and fats besides soap

FRANK MERRILL

makers in the new association's membership, it would be called the Bureau of Raw Materials for American Vegetable Oils and Fats Industries. The function of the Bureau would be not only to protect the raw material supply of the vegetable oil industries, but to enhance the available supply by all practical means.

The Bureau of Raw Materials opened temporary Washington headquarters in the Hotel Washington on July 1, 1921, with Rogers Brown in charge. The writer, who had been the general manager of the Capitol Refining Co., a cottonseed oil refinery located at Reilke, Va. (just across the Potomac from Washington), became his assistant. So long a time was required for passage of the Fordney-McCumber Tariff Act that the "temporary headquarters" began to seem quite permanent, as there was no opportunity to find new quarters while the tariff bill was under discussion. The bill which bore the number H. R. 7456 was introduced in the House of Representatives on June 29, 1921, and was not finally enacted into law until September 21, 1922, almost fifteen months later. Every step of the way was hotly contested by the advocates of high and low tariffs on individual schedules. The first of the depressions to follow as an aftermath of World War I was under way, and higher tariff rates were being offered as a panacea to cure the nation's economic ills.

An amusing incident took place during the debate on the oils and fats schedules of the Forney-McCumber bill in the Senate. Senator James Reed, a colorful figure from the State of Missouri, had been left on the floor of the Senate to watch the debate on behalf of the Democratic minority. A Senator who was desirous of establishing high tariffs on all oils and fats which might possibly compete with menhaden oil arose to describe the great magnitude of the menhaden fishing industry. He stated that the industry extended clear up and down the Atlantic Seaboard and around the Gulf of Mexico. Senator Reed must have been nodding, as he astonished his colleague by arising at the conclusion of his remarks and denouncing "this man Menhaden who evidently has an unconscionable monopoly and should be proceeded against under the Anti-trust Act."

Tariff Act Enacted

WHEN the Tariff Act of 1922 was finally enacted into law, almost all of the industries which required foreign raw materials found their access to them severely hampered by materially increased tariff barriers. The soap industry, however, fared much better than the average. The duty-free classification of all items which had been on the free list in the Tariff Act of 1913, such as copra, palm kernels, palm oil, palm kernel oil, sulphur olive oil, etc., remained unchanged except as to tallow, against which a half-cent per pound duty was levied, although minor additions to the free list were made in the form of sesame oil and seed. The duty on whale oil was raised to 6 cents per gallon, an increase of 1 cent per gallon. Herring oil was raised from 3 cents per gallon to 5 cents. Such changes in rate of duty were very moderate compared with those which had been requested.

With the placing of the Tariff Act of 1922 on the statute books, Rogers Brown returned to his business in New York, and the writer succeeded him as Washington Representative of the Bureau of Raw Materials. Permanent offices were set up in the Munsey Building, which remained the headquarters until 1928, when the National Press Building was erected. The Bureau of Raw Materials was one of the first tenants of this building, which provides office space for the hundreds of newspaper men in Washington and houses the National Press Club.

Incorporated in the 1922 Tariff Act was a so-called flexible tariff provision (Section 315). Its sponsors claimed that it would take the Tariff out of politics. The Bureau of Raw Materials cannot vouch for the correctness of this statement. Diligent effort was made over a period of several years to secure reductions in rates of duty on various oils and fats on behalf of industrial groups in the Bureau membership, including soap ma-

kers, paint and varnish makers, vegetable and fish oil refiners, etc. No results were forthcoming on any of these efforts except on one small item; namely, sperm oil, on which a 50 per cent reduction in the 10-cent per gallon duty was recommended by the Tariff Commission and approved by the President. On more important items it was the experience of the Bureau that it is very difficult to get the Tariff Commission to conduct an investigation, and should a reduction in duty be recommended by the Tariff Commission as the result of an investigation, there was no assurance that the Executive would not reject the recommendation. The authority of the Tariff Commission to recommend a 50 per cent reduction in tariff rates was renewed in the Tariff Act of 1930, and the President has only within the last few weeks rejected an important recommendation thereunder to increase the rate of duty on Swiss watches.

Smoot-Hawley Act

THE Tariff Act of 1930, also known as the Smoot-Hawley Act, which was passed during President Hoover's administration started out as a moderate revision of the 1922 tariff rates according to Mr. Hoover's expectations and ended up in substantial mark-ups in a large proportion of the duties as compared to the 1922 rates. Like the Tariff Act of 1922, it met with vigorous oppostion as evidenced by the fact that Representative Hawley, Chairman of the House Ways and Means Committee, introduced his tariff bill, H. R. 2667, on May 7, 1929, and it was not enacted into law until June 17, 1930, over thirteen months later. While, as previously stated, a large number of rates of duty were increased, the only change in duty rates on soap makers' raw materials was the removal of palm kernel oil from the free list and the imposition of a duty of 1 cent per pound upon it. This was offset, however, by the inclusion of palm kernel oil in paragraph 1732 of the free list which granted free entry if "rendered unfit for use as food or for any but mechanical or manufacturing purposes." Also included under the duty exemption granted by this provision were sesame, rapeseed and sunflower seed oils. Olive oil was likewise included, but this was a carry-over from previous tariff acts beginning with the Act of 1909.

The favorable treatment of soap makers' raw materials in the Tariff Act of 1930 did not come about because of any lessened opposition from the proponents of higher duties on oils and fats, as compared with 1922. The opposition was on the ground in as large numbers and was fully as vocal, but with time to prepare the soap makers' case, and with knowledge of the opposition arguments in hand, a complete rebuttal was possible. Letters were obtained from scores of the best known organic chemists in the United States to refute the bug-a-boo of interchangeability. Endorsements of the position of the soap makers in desiring to bring raw materials into the country which were either not produced here or else produced in greatly inadequate supply were obtained from many farm leaders. All such material was submitted to the two tariff-making committees of Congress.

Synthetics Foreseen

ONE letter which came from the President of a large cattle breeders' association is worthy of quotation in part because of its prophetic nature of what transpired in the building up of the synthetic detergent industry in the years following the levying of processing taxes in the Revenue Act of 1934. The quotation follows: "At our meeting here on Monday we went pretty thoroughly over the whole schedule of beef, canned meats, etc., and on most of these items asked for a higher tariff than is carried at the present time, but when it came to the matter of oils and fats, we did not make any recommendations at all. It is the feeling of some of our Committee (which was representative of all beef cattle interests) that in case higher protective duty was placed on these products, it would only encourage the use of substitutes and for that reason we passed them without any recommendations."

The Tariff Act of 1930 was the last general Tariff Revision Bill enacted into law by Congress. This was due to the passage of the Reciprocal Trade Agreements Act in 1934, but Congress did not retire from the tariff-making business. It merely shifted its activities to Revenue acts and called the tariff duties processing taxes and import-excise taxes. The first important excise taxes were levied in the Revenue Act of 1932 on coal, crude petroleum, copper and lumber.

The first processing taxes were levied under Public Law 10 of the Seventy-third Congress. This was the Agricultural Adjustment Act or so-called Triple A Act which was approved on May 12, 1933. Under this act processing taxes were levied on hogs in the amount of $2.25 per 100 pounds live weight; on cotton, 4.2 cents per pound of lint; on field corn, 5 cents per bushel. Besides these there were processing taxes on peanuts, wheat, tobacco, jute and paper, and additional ones in effect or in prospect when hearings on the Revenue Act of 1934 were begun.

Public Law 10 gave the proponents of high duties on oils and fats a new argument. They appeared before the Ways and Means and Senate Finance Committees to argue: "Processing taxes are in effect or proposed on domestic commodities which are the sources of domestic oils and fats, together with compensating taxes on imports of manufactured articles made from same. Why, therefore, should there not be processing taxes on imported oils and fats which would otherwise have a competitive advantage?" The argument proved persuasive and processing taxes in the amount of 3 cents per pound were levied by the Seventy-third Congress on coconut, palm, and palm kernel oils. An additional processing tax of 2 cents per pound was levied on coconut oil of non-Philippine origin. In addition to these, three-cent import-excise taxes were levied upon scores of other oils and fats and derivatives.

Ironically, the processing taxes and compensating taxes levied by the Secretary of Agriculture under Public Law 10 were invalidated by the decision of the United States Supreme

Court on January 9, 1936, in the Hoosac Mill case. Had the idea of placing processing taxes on coconut, palm and palm kernel oil been sold to the Secretary of Agriculture by their backers rather than to the Congress, the processing taxes on these oils would have gone out of the window along with those on basic agricultural products.

The processing taxes on vegetable oils being classified as internal taxes are not subject to negotiation under the Reciprocal Trade Agreements Act. Since the import-excise taxes on oils and fats are collected at the port of entry, no such prohibition applies, and with few exceptions these rates have been reduced to the maximum extent which was 50 per cent under the initial act, although some were reduced 75 per cent under the 1945 extension of the act. Prior to the entering of Reciprocal Trade Agreement negotiations, the Committee for Reciprocity Information holds hearings to acquire information on items which will be subject to negotiation for duty and excise tax reduction. The Bureau of Raw Materials has entered an appearance and filed briefs at all such hearings held since the Reciprocal Trade Agreements Act was approved in 1934, where fats and oils were included in the agenda of items to be negotiated.

Effect of World War II

WORLD WAR II had not been long under way when it became apparent that the sources of supply of copra and coconut oil and palm oils would be endangered. The Bureau of Raw Materials assumed the task of seeing that in the absence of Government stock piles that private industry was encouraged to bring the maximum quantity possible of these materials into the United States while the sea lanes were yet open. As restrictions on the use of shipping tightened, it was necessary to convince the early arrivals in the Defense Agencies which were being formed of the need for lauric acid oils and palm oil in the fighting of a war, but with their cooperation record stocks of coconut and palm oils were built up.

When all access to Philippine and other South Asian sources of supply of copra and coconut oil were shut off, supplies came mainly from Ceylon, and the nearby island groups of the South Pacific, such as the Society Islands. Coconut oil of non-Philippine origin being subject to the two-cent differential in the processing tax, the Bureau secured endorsement of the war agencies of special legislation to suspend the two-cent tax for a two-year period. Successive renewals of the suspension were obtained by the Bureau until August 27, 1949.

With the United States shut off from most of its normal sources of fats and oils supplies, Brazil assumed added importance as a source of replacements. The Brazilian Government was keenly aware of the possibilities and anxious to develop them. The Brazilian Ministry of Agriculture was, therefore, authorized by President Getulio Vargas to invite a mission of United States vegetable oil technicians for the purpose of surveying the Brazilian vegetable oil industry. The group was composed of three Government officials who represented the Departments of Agriculture, Commerce, and the U. S. Tariff Commission, respectively, and three representatives of private industry, one of whom was the writer. While in Brazil, the members of the Mission were the guests of the Federal Government and the governments of the numerous states visited. Funds for airplane transportation to and from Brazil were provided by the Office of the Coordinator of Inter-American Affairs which, with the cooperation of the United States Tariff Commission, published the 111-page report of the Mission on its return from Brazil.

Founded by a group of soap makers, the Bureau of Raw Materials for American Vegetable Oils and Fats Industry has spearheaded battles on high fat tariffs

Oil Mission to Brazil

THE United States Vegetable Oil Mission to Brazil landed at Belem in Northern Brazil on March 9, 1942. Starting from this seaport it traveled through seven thousand miles of Brazil by air, automobile, train and boat and inspected the vegetable oil industries of twelve states, beginning with Para in the north and concluding with Rio Grande do Sul in the extreme south. The mission inspected the sources of supply of about 20 of the various oilseeds produced in Brazil, of which castor beans, babassu, cottonseed and citicica were of prime interest to American importers because all were in production on a sufficiently large scale to warrant sizable exports of the seeds or their products. The carnauba and ouricuri wax industries were also inspected.

The babassu area, which is of chief interest to soap makers, consists in the main of the states of Maranhao, Para, Goiaz and Piaui. There are in these states conservatively 2 billion babassu palms. The U. S. Vegetable Oil Mission reported to the Foreign Economic Administration at Washington that the chief handicap to larger babassu kernel production in Brazil was the lack of transportation facilities particularly roads into the babassu regions and recommended that financial aid in the building of roads be extended to Maranhao. The FEA did provide a fund for a very modest road building program in the state of Maranhao in compliance with this recommendation, and the Federal Government of Brazil agreed to rehabilitate the rolling stock on its railroad which runs from Sao Luiz, the capital of Maranhao to Terezina in the state of Piaui. Exports of babassu kernels from Brazil to the United States in 1942 were 21,304 metric tons. Exports for 1945, the last year of World War II, were 44,292 tons. Exports of babassu kernels during World

(*Turn to Page* 151)

Modern Glass Cleaners

A WINDOW pane that does not admit its full quota of light is both unsightly and uneconomical. The same applies to windshields, spectacles and protective goggles, but with begrimed or clouded items of these types there is also an element of danger because of poor vision. To permit full transmission of light and to eliminate the hazards of obscured vision, the chemicals specialties industry has developed a variety of efficient glass cleaning preparations and antimist compounds. Moreover, new and improved products for these purposes are constantly being introduced by the industry in the form of powders, cakes, pastes and, especially, liquids.

Most people have learned that a better glass cleaning job can be done with less effort through the use of products made especially for this purpose. This is well indicated in various consumer surveys as, for example, the one compiled and published in 1952 by *The Milwaukee Journal*. (1) These data, representative of a typical American city, showed that 61 per cent of Milwaukee's families bought products for cleaning windows; 64 different brands being purchased.

Apparently these figures do not include specialized products for cleaning and polishing eyeglasses, goggles and windshields. Nor do they include antimist products. However, it need hardly be pointed out that safety education programs, together with campaigns to reduce industrial accidents to the eyes, have greatly stimulated the demand for suitable preparations.

While showing that a clear liquid preparation leads the field, the Milwaukee survey also revealed that abrasive-containing products—notably those of the "glass wax" type—have made a remarkable return to popularity. Not so long ago, there seemed to be quite general agreement that products based essentially on abrasives were on their way out or would, at least, be relegated to a minor position. This, it was said, was due to the fact that such products leave a powder or dust that gets into any scratches on the glass, into crevices and corners, and onto window sills, mirror frames, and floors. However, there are certain types of soil on glass surfaces that respond to the effective action of a mild scouring agent.

Abrasive Type Cleaners

THESE preparations may be classed as powders, cakes, pastes and liquids. All contain mild abrasives such as diatomaceous earth, kieselguhr, precipitated chalk, powdered feldspar or the like. In addition, they often contain soap, a synthetic detergent or an alkali to help remove grease or other clinging soil. For example, it has been suggested in one manufacturer's literature that the addition of three to 10 per cent of an alkyl aryl sulfonate (e.g. "Nacconol NR", National Aniline Div., New York, N. Y.) to the mild abrasives used in the preparation of windshield cleaning compounds yields a mixture that will remove grease on the glass surface completely and leave it clear and sparkling. It is said that such mixtures can be easily rubbed off the windshield after drying.

Other special ingredients, including solvents, may be incorporated with the abrasives, particularly in the paste and liquid type preparations. Odor is becoming a more important consideration in the formulation of these cleaners. Appropriate perfuming compositions are now available to cover the somewhat earthy and other smells associated with certain raw materials.

It is rather interesting that a powdered preparation was high among the window cleaning products listed in the Milwaukee survey. Glass cleaners of the powder type may consist of simple mixtures of abrasives. John's (2) text provides the following typical formula for such a composition:

Chalk, precipitated	40 parts
Kieselguhr	30 parts
China clay	40 parts

Federal Specification P-P-596a permits the use of more varied types of ingredients for making scouring powder for glass. According to this specification the product should be a fine, uniform free-flowing powder suitable for cleaning highly polished glass surfaces which must transmit light efficiently, such as cabin windows and aircraft windshields. The material, which may or may not be scented, should be white or light gray in color. It must clean glass surfaces satisfactorily without scratching the glass or leaving an oily or other film on the surface.

From a composition standpoint, the specification requires that insoluble siliceous material shall be not less than 85 per cent and not more than 93 per cent, and should consist of ground feldspar or other insoluble siliceous abrasive that will not scratch highly polished glass surfaces. All of this siliceous material should pass through a No. 200 sieve. The anhydrous soda soap content should not be less than four per cent. Alkali as alkaline salts, calculated as sodium carbonate, should not exceed five per cent. Free alkali, calculated as sodium hydroxide, should not exceed 0.1 per cent. Rosin, sugar and foreign matter should not be present.

Cake Polishes

CAKE or block type glass polishes are nearly obsolete. Used by rubbing a damp cloth over the cake and then applying the cloth to the glass surface, such cleaners were very popular a generation or so ago. They gen-

By Milton A. Lesser

erally consisted of suitably moistened mixtures of abrasives which were mixed with soap, compressed to shape and allowed to dry. (3) It is interesting that as recently as 1943, a patent (4) was granted for a moldable polishing mixture for use on glass or metals.

Offering certain conveniences and definite packaging advantages, paste type glass polishes are usually applied with a cloth, allowed to dry and then polished to a high luster with a soft cloth. Paste products especially suitable for use on automobile windshields have been described (5) as consisting of powdered feldspar, calcium, bentonite, a small proportion of sodium bicarbonate, and water. Rather different is the following paste which, according to Tyler, (6) was developed primarily for cleaning glass:

	per cent
Wax	5.0
Triethanolamine soap	2.0
Kerosene	15.0
Diatomaceous earth	15.0
Water, to make	100.0

Abrasive-containing glass cleaners may range in composition from simple "shake" type suspensions of the mild scouring agents in water to products containing a number of additives, such as alcohols, solvents, emulsifiers, suspending agents, and detergents. Color and perfume are optional, but are generally included. A simple, but quite modern preparation of this class may be made on the basis of the following general formula, as suggested by James: (7)

	per cent
Mild abrasive	10.0
Sulfated fatty alcohol	12.0
Color	sufficient
Water, to make	100.0

Also indicative and also quite modern is John's (2) formula for a liquid window cleaner. This consists of:

Water	5 gal.
Triethanolamine oleate	¾ lb.
Soda ash	½ lb.
Whiting	35 lb.
Rouge	5 lb.

There is no doubt that the resurgence in popularity of the abrasive liquid cleaners came with the highly publicized introduction of the "glass wax" type of product a few years ago. Many of the products marketed to take advantage of the early enthusiasm for these cleaners have since fallen by the wayside. Some have persisted and remain popular, including the original product. Indeed, the original cleaner of this type held second place among window cleaners in the Milwaukee survey: (1) being used by 27.9 per cent of the families participating in the study.

"Glass Wax" Cleaners

IN A REPORT (8) on litigation concerning the use of the term "glass wax," considerable information was also given regarding the composition of these cleaners and the function of the ingredients. Most such products, it was noted, contained fine, grit-free diatomaceous earth as the abrasive and bentonite as a suspending agent. Solvents were included to help dissolve grease and speed drying. Ammonia water was sometimes included as an additional cleaning agent and to impart an odor generally associated with window cleaning. Although emulsifying agents were used, the products varied greatly in stability. A few preparations actually contained small proportions of wax, but skepticism was expressed concerning the value of this ingredient. It was pointed out, however, that several of the products contained silicone, which remains as a film on the glass. This film protects against fogging and perhaps also keeps grime from fixing itself on the glass.

According to one source, (9) a polish of this abrasive type may be made along the following lines:

	parts
Bentonite	20
Isopropyl alcohol	40
Carbon tetrachloride	15
Naphtha	10
Propylene glycol mono-oleate	15
Water	100

Pointing out that the composition of these products embodies several old ideas in window cleaning, Levitt (10) cites the following formula as the prototype of such a preparation:

	per cent
Complex colloidal magnesium aluminum silicate (Veegum*)	2.2
Water	68.8
Diethylene glycol	8.9
Polyoxyethylene sorbitan monostearate (Tween 20**)	8.9

* R. T. Vanderbilt Co., New York, N. Y.
** Atlas Powder Co., Wilmington, Del.

Ammonia, 27%	2.2
Kerosene (odorless)	4.5
Mild abrasive (Celite Superfloss***)	4.5

*** Johns-Manville Corp., New York, N. Y.

Such preparations still display the dusting tendencies inherent in all the abrasive-containing cleaners, but this is countered in advertisements which stress the idea, "see where you've cleaned." The speed and ease of using these products is also emphasized. In addition to their use on windows, the promoters of abrasive cleaners call attention to their value for polishing mirrors, silverware, chrome, tile and porcelain.

Liquid Cleaners

NONETHELESS, the clear, generally tinted liquid types of glass cleaners lead the field. Indeed, a liquid product rated first position, by a wide margin, in the Milwaukee survey. Such liquid products are easy to use, being applied on a cloth or by means of simple spray device attached to the container. In the main they are quick-acting and do a good cleaning job. They are also comparatively easy to make and package. One disadvantage of these liquid glass cleaners is the fact that certain components may injure painted surfaces and plastic materials on contact.

Remembering that there is considerable overlapping in types and that many ingredients are used interchangeably, liquid glass cleaners may be divided into three main categories. These include products based on (a) alcohols, (b) solvents and (c) detergents or alkalies.

Alcohol Type Cleaners

PRODUCTS of the first class make use of methyl, ethyl and isopropyl alcohols. These can be used singly or in combination in aqueous solutions, with or without various adjuncts to facilitate cleaning. Noting that methyl alcohol (methanol) finds less frequent use because of its toxicity, Neidig (11) points out that an outstanding advantage of the alcohols is to be found in their evaporation rates. They do not evaporate too quickly before the cleaning job is done, nor so slowly that long rubbing is needed. Thus, says he, glass cleaners may be formulated to give the desired drying time by varying the kind and proportion of alcohol used. It should be noted that this characteristic, as well as other properties of the glass cleaner, can be influenced by the addition of adjuncts such as glycerine and glycols.

These points are indicated in the formula for the comparison glass cleaning solution given in Federal Specification P-G-406. This consists of:

	per cent
Ethylene glycol	3.0
Isopropyl alcohol	10.0
Ethyl alcohol (95%)	27.0
Water, distilled	60.0

The liquid glass cleaner covered by Federal Specification P-G-406 is intended primarily for use on windows, windshields and other glass surfaces. It is not intended for use on transparent plastics. The cleaner is of two types: regular and antifogging. The standards for this cleaner require that during storage and handling it show no tendency to decompose, emulsify, or separate into layers at normal temperatures. It should not irritate the skin and contain no toxic ingredients other than the denaturant for the alcohol. Dyes, waxes, perfumes, ammonia or inorganic alkalies should not be included in the raw materials. The flash point of the liquid glass cleaner should not be less than 27° C. and the pH not less than 7.0 nor more than 9.0.

When correctly applied to glass surfaces and polished, the compound should leave the surface free from dust, grime and ordinary soil material and should produce an appearance equal to or better than that of the comparison solution. The procedure for determining the cleaning properties of the compound are given in the specification. It is also required that the odor of the cleaner shall be no more objectionable than that of the comparison solution. With respect to deleterious action, the liquid should not produce more softening, discoloration or change in the surface appearance of enamel or lacquer finishes than the comparison cleaner. Similarly, the liquid should not attack or produce more discoloration of aluminum than caused by the comparison preparation. Details for determining the effects of the cleaner on finishes and on aluminum are given in the standard.

Although the alcohol content may reach as high as 95 per cent, (6) many window, mirror and windshield cleaning solutions consist essentially of from 15 to 25 per cent by volume of ethyl alcohol in water, plus a trace of dye and perhaps a little perfume. Sometimes these solutions also contain small amounts of soap, synthetic detergents, alkali or ammonia. (3) Thus, a glass cleaner analyzed by James (7) consisted of:

	per cent
Ethyl or isopropyl alcohol	30.0
Soap	1.0
Color and perfume	sufficient
Water to make	100.0

With all the red tape associated with the procurement of ethyl alcohol, formulations often turn to isopropyl alcohol, which works just as well. The disadvantage of its objectionable odor can be overcome through the use of a suitable perfuming compound—one that will not separate, cause clouding of the solution, nor produce streaking when applied to the glass surface. Used alone, isopropyl alcohol makes an effective lens cleaner. (3) However, efficient glass cleaners can be made by mixing 35 to 50 per cent of isopropyl alcohol with water and adding a trace of dye to suit. (12) The alcohol may be combined advantageously with other active ingredients, as in the followng formula (13) which yields an effective and quick drying cleaner for windows and mirrors:

	parts
Isopropyl alcohol (99%)	35.00
Solvent (Carbitol*)	7.50
Wetting agent (Tergitol No. 7*)	0.25
Water	57.25

* Carbide & Carbon Chemicals Corp., New York, N. Y.

It should be mentioned that the dihydric alcohol, ethylene glycol, is also a useful component of glass cleaners. For example, as previously indicated, it is an ingredient of the comparison solution in the Federal Specification for liquid glass cleaner. According to Tyler (6) one of the best known glass cleaners consists of

about three per cent of this glycol in water, together with a trace of dye.

Because of their effective action against dirt-holding, greasy films, solvents like naphtha, kerosene and carbon tetrachloride find frequent use in glass cleaning fluids. For example, an often cited (3, 7) cleaner with excellent grease-removing properties may consist of 35 per cent of carbon tetrachloride in kerosene.

The addition of one to two per cent of silicone fluid to a solvent yields glass cleaners and polishes with many desirable properties. Soluble in such solvents as gasoline, kerosene, naphtha and Stoddard solvent, the silicone fluids readily wet and cling to glass surfaces. Polishes made with silicones produce films with a high degree of water repellency. (14) In commenting on the cleaning and antifogging properties of silicone type glass cleaners, Neidig (11) observed that silicone-treated windows may be cleaned quickly merely by wiping them with a dry cloth.

Household Ammonia

HOUSEHOLD ammonia still holds an important place among liquid products based upon detergents and alkalies. This old fashioned material was listed by 3.6 per cent of the respondents in the Milwaukee survey (1) as the window cleaning product used by their families. According to a report issued by the American Hotel Association, (15) solutions of ammonia in water, small quantities of a synthetic detergent, or one of the alkalies such as tetrasodium pyrophosphate as suitable for cleaning windows. Simple solutions of trisodium phosphate (e.g. four per cent) or sodium metasilicate (one per cent) also make useful window cleaners. (3)

In discussing the value of synthetic detergents in window cleaning fluids, Neidig (11) observes that the alkyl aryl sulfonates work efficiently in such products. However, several other types of synthetic detergents have also been used, including amides and sulfates. McCutcheon (16) states that nonionic detergents are particularly useful in cleaning glass. Several formulas illustrating the use of synthetic detergents in glass cleaners are given by James, (7) of which the following is one example:

	per cent
Sodium carbonate	4.8
Sulfated fatty alcohol	8.0
Color and perfume	sufficient
Water, to make	100.0

Detergent manufacturers' literature also provides useful data on glass cleaner formulation. Thus, one producer suggests that the use of a three per cent aqueous solution of an alkyl aryl sulfonate ("Nacconol NRSF"), to which ammonia and alcohol have been added, makes an excellent preparation for spraying on windows and other glass surfaces. Another supplier advises that an excellent glass cleaning preparation can be made by dissolving one ounce of the dioctyl ester of sodium sulfosuccinic acid ("Aerosol OT Aqueous 10%," American Cyanamid Co., New York, N. Y.) in four gallons of water. If desired part of the water may be replaced by a suitable solvent, like isopropyl alcohol, denatured ethyl alcohol or acetone. It is not recommended that alkali be added to such a mixture. If desired, the solutions may be colored.

Spraying Devices

IN ADDITION to the familiar spring type device, a number of gadgets have been developed to apply a spray of liquid cleaner over the glass surface. Recently, the plastic squeeze bottle has been adapted to this task. In addition, the low-pressure aerosol dispenser has been suggested (17) for delivering a glass-cleaning spray. A gas-propelled window and glass cleaner of this type can be made from:

	per cent
Detergent (Duponol WA paste*)	5.0
Tannic acid	1.0
Glycerine	5.0
Perfume	0.1
Water	88.9

* E. I. du Pont de Nemours & Co., Wilmington, Del.

Ninety per cent of the formula is packaged with 10 per cent "Freon-12"-"Freon-114" mixture. The product is ejected from the container in the form of a spray foam. This foam is thoroughly spread over the surface to be cleaned and removed by rubbing with a cloth until dry. The cleaner not only removes the soil, but also leaves a film on the glass which imparts an antifogging effect to the surface.

Antimist Compounds

ANTIMIST or antifogging compounds for glass surfaces have attracted considerable attention during recent years because they contribute to both safety and personal comfort. A man whose vision is obscured by misted glasses or goggles is uncomfortable and inefficient and, as in certain industries, is a menace to himself and other workers. Similarly, a man behind a windshield obscured by rain or condensed moisture is a definite hazard on the road.

Antimists are designed to prevent the clouding or fogging of glass surfaces by rain drops or condensation of moisture due to sudden temperature changes. These more specialized products which, as a rule, also provide a good cleaning and polishing action, are used on bathroom mirrors, dental mirrors, refrigerator showcases, auto and plane windshields, spectacles, safety goggles, eyepieces of face shields and gasmasks, and the like. They are provided as liquids, pastes or pencils, and also in the form of treated papers and cloths.

Such compositions are based principally upon some surface-reduc-

(*Turn to Page* 105)

Anti-mist products, one of the more recent additions to the glass cleaning family, are provided as liquids, pastes or pencils, and also in the form of treated papers or cloths.

1862-1952

90th Anniversary

Close-up of two-story all-glass entrance to the Wrisley headquarters in Chicago.

Allen B. Wrisley Company

ALLEN B. WRISLEY CO., Chicago, manufacturers of soaps and toiletries, is celebrating its 90th anniversary this year. The firm is one of the few still actively run and managed by the same family that founded it. The Wrisley company has had only two presidents during its entire existence—Allen himself, who founded it, and Wrisley B. Oleson, his grandson. Another member of the family, George A. Wrisley, is vice president and general manager. In addition to his other duties, he is—for the third time—president of the Association of American Soap and Glycerine Producers. His son, George A. Wrisley, Jr., is general sales manager. There are also several other Wrisleys in various positions of importance in the company.

Wrisley Oleson became active in the business in 1922. He had been sales and advertising manager for the Pepsodent Company. Though he bore the corporate title of secretary, he took over the sales end of the business and became president after his grandfather's death in 1927.

Wrisley history really represents the history of soap manufacturing in the U. S. By 1862 the making of soap —formerly a domestic art—was becoming industrialized. The Wrisley brothers, Allen and George, worked their way West by slow stages from a farm near Gill, Massachusetts. They invested their savings in some big wooden kettles, rented a small building on the edge of the business section in Chicago and started boiling soap.

When they set up business in the spring of 1862, the two Wrisleys handled all the details of the business. During the day they secured orders and delivered merchandise. At night they made the soap. It was a demanding but also rewarding business, and in 1866 they moved to larger quarters where their kettles extended to the second story. Two kettles held

WRISLEY OLESON
President

GEORGE A. WRISLEY
Vice-Pres., Gen'l Mgr.

GEORGE A. WRISLEY, JR.
Sales Manager

30,000 pounds each, an enormous capacity for that time.

Introduce Power Crutcher

THE Wrisleys introduced a startling improvement: the first power crutcher for mixing soap after it had been boiled. Until then the operation had been performed by hand. The Chicago fire of 1871—the first of three the Wrisley business has survived—wiped out the soap factory. Allen and George had to start all over again. They rented a one story structure and started rebuilding their soap kettles outdoors. Two more fires—one in 1898, the other in 1926—destroyed everything and each time they started again.

A story is told of the fire in 1926 that is characteristic of Allen Wrisley as associates remember him. The then aged soap maker—he was 89 years old—watched the fire and directed fighting operations until lunch time when he left to keep an engagement with his wife. During luncheon he outlined plans for the new plant. Then he returned and watched the fire finish its work on the enterprise he had spent his life building.

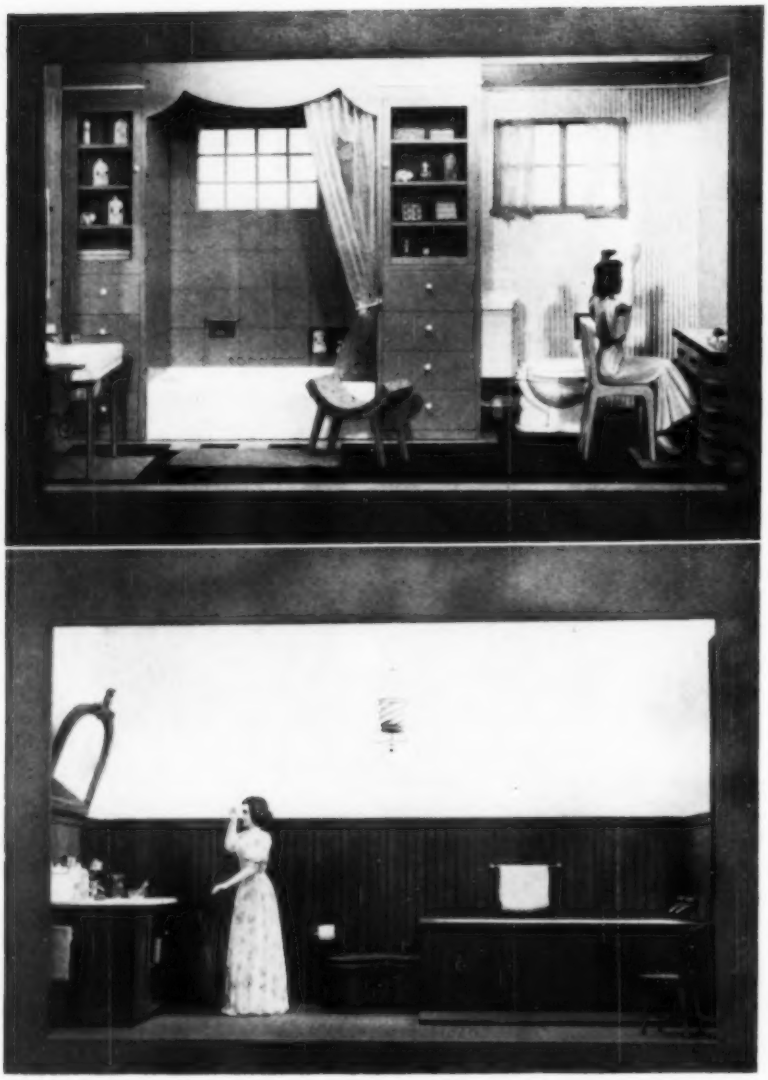
When he died the following year the first unit of the present plant

Top left: Overall view of the facade of the Wrisley plant and offices on W. 65th St. in Chicago.
Center, left: Office of Wrisley Oleson, grandson of the founder, and now Wrisley president.
Bottom left: general office and accounting department of Allen B. Wrisley Co.
Bottom right: The board of directors' meeting room at the Wrisley headquarters.

Synthetic Detergents up to date II

Part III

By John W. McCutcheon



By way of marking its 90th anniversary, Wrisley has built two miniature bathrooms, one of 90 years ago (bottom) and one of today's vintage. Both carry miniatures of Wrisley's products of the present and the early days of the company. The old bathroom is copied from photographs taken in the homes of President James Buchanan at Lancaster, Pa., and James Whitcomb Riley in Indianapolis.

in Chicago was under construction. Changes and additions since have made it one of the finest soap making plants in the world.

Allen Wrisley was first in introducing many improvements in soap manufacturing besides being the innovator of the first power crutcher. He used the first glycerine recovery plant in America and also the de Cressoniere Toilet Soap Plant—a unique piece of equipment which in one continuous operation, transformed liquid boiled soap entered at one end into finished chips emerging at the other. This was a novel idea which only Allen Wrisley of American soap makers had the wisdom to grasp at the time. It was seen first at the World's Fair at the end of the 19th century.

For the first twenty years or so of his career as a soap maker, Allen Wrisley seems to have concentrated heavily on the production of laundry soaps. Just when he got into the toilet soap business is something of a mystery. But it was toilet soaps which really brought fame to the Wrisley name. No one knows just how many varieties Allen and George Wrisley produced in their life time. It is recorded, however, that their representative exhibited some 250 kinds of toilet soaps

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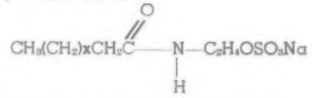
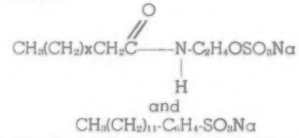
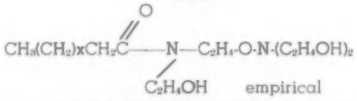
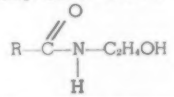
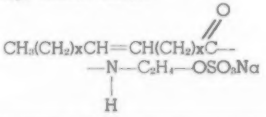
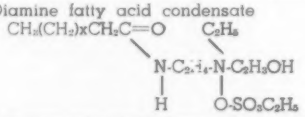
Trade Name	Manufacturer	Class and Formula	Main Uses	Form	% Conc.	Type	Remarks
Merpol B	E. I. du Pont de Nemours & Co.	Modified alcohol sodium sulfate plus solvent	Penetrant	Liquid		anionic	Textile scouring and levelling agent.

Trade Name	Manufacturer	Class and Formula	Main Uses	Form	% Conc.	Type	Remarks
Merpol B	E. I. du Pont de Nemours & Co.	Modified alcohol sodium sulfate plus solvent	Penetrant	Liquid		anionic	Textile scouring and levelling agent.
Merpol C	E. I. du Pont de Nemours & Co.	Fatty alcohol sodium sulfate plus solvent	Penetrant	Liquid		anionic	Textile scouring and levelling agent. Higher solvent content than Merpol B and a slightly superior wetting agent in hard, acid or alkaline solutions.
Michelene DCA	M. Michel & Co.	Alkyl amido sulfate 	Detergent	Powder		anionic	Textile wet processing.
Michelene DMA	M. Michel & Co.	Alkyl amido sulfate and alkyl aryl sulfonate 	Detergent Emulsifier	Powder		anionic	Textile wet processing; compounding of household dairy, farm specialties.
Michelene DLC Michelene DAS	M. Michel & Co.	Alkyl aryl sulfonate and alkyl amido alcohol $CH_3(CH_2)_{11}$-C_6H_4-SO_3Na and 	Detergent Wetting	Liquid		anionic	Textile wet processing, cosmetics, and household cleaners. Michelene DAS is a concentrated form of the DLC.
Michelene DS	M. Michel & Co.	Alkyl amido alcohol 	Emulsifier Wetting	Liquid		nonionic	Textile wet processing, cosmetics, wool spinning, lubricant.
Michelene DRL	M. Michel & Co.	Alkyl amino sulfate 	Dispersant	Liquid		anionic	Textile wet processing.
Michelene DLF	M. Michel and Co.	Modified alkyl aryl sulfonate	Wetter Foamer	Liquid		anionic	Textile wet processing, car washing
Michelene DLD	M. Michel and Co.	Fatty acid amide ester	Dispersant Leveler	Liquid		nonionic	Textile dyeing.
Michelene DNI	M. Michel and Co.	Ethylene oxide condensate	Detergent Dispersant Emulsifier	Liquid		nonionic	Non-electrolytic leveling.
Michelene W	M. Michel and Co.	Alkyl naphthalene sulfonate $C_{10}H_6(C_3H_7)_2SO_3Na$	Wetter Penetrant	Paste, Flake		anionic	Textile wet processing, metal processing.
Michelene 10 Michelene 15	M. Michel and Co.	Diamine fatty acid condensate 	Softener	Paste		cationic	Textile finishing.
Michelene 20	M. Michel and Co.	Alkylated amide	Softener	Paste		cationic	Textile finishing and fixing direct dyes.

Trade Name	Manufacturer	Class and Formula	Main Uses	Form	% Conc.	Type	Remarks
Michelene 25	M. Michel and Co.	Fatty acid amine condensate	Softener	Paste		cationic	Textile finishing.
Michelene 30	M. Michel and Co.	Amine fatty acid condensate		Paste		nonionic	Textile finishing.
Michelene MA-4 Michelene MA-8	M. Michel and Co.	Alkyl aryl sulfonate	Detergent Wetting	Flake or Powder		anionic	Textile wet processing, and general compounding. Michelene MA-8 is a concentrated form of Michelene MA-4.
Miragene S. Conc.	Miranol Chemical Co.	Fatty acid amide ether	Detergent	Liquid	40%	nonionic	Similar to Miragent T Liquid conc. except in organic solvent.
Miragene T Liquid	Miranol Chemical Co.	Fatty acid amide ether	Detergent	Liquid	40%	nonionic	An aqueous solution. Good foam, salt free.
Miragene T Powder	Miranol Chemical Co.	Fatty acid amide ether	Detergent	Powder	18%	nonionic	18% active, balance carbonates.
Miranol CL Conc.	Miranol Chemical Co.	Sulfonated fatty acid derivatives	Detergent Wetting	Liquid	42%	anionic	Used for general cleaners.
Miranol HM Conc. Miranol CM Conc. Miranol SM Conc. Miranol JM Conc. Miranol MM Conc. Miranol DM Conc. Miranol LM Conc.	Miranol Chemical Co.		Detergent	Liquid	45%	anionic	This is a series of compounds differing in the length of the alkyl chain. Condensed fatty acids used are as follows: HM—lauric, CM—coconut FA, SM—capric, JM—caproic, MM—myristic, DM—stearic and LM—linseed F.A. Use: Shampoos, dishwashing, textile softening, paint emulsifier, etc. HM Regular is 22% active.
Miranol LF Liquid Conc.	Miranol Chemical Co.	A polyamine derivative of a sulfonated fatty acid amide	Detergent Wetting	Liquid	42%	anionic	Cosmetics, bubble bath, shampoo. A super clear grade is also available.
Miranol LF Conc. Pdr.	Miranol Chemical Co.	Sulfonated fatty acid amide	Detergent	Powder	42%	anionic	pH of 1% sol. 7.8, non-toxic.
Miranol OH	Miranol Chemical Co.	Modified lauroyl imidazolene hydroxy acetate	Detergent Wetting	Liquid	45%	cationic	Thickener for soap solutions, silver polishes, rug shampoos.
Miranol QCK	Miranol Chemical Co.	Modified lauroyl imidazolene hydroxy carbonate	Wetting	Powder	27%	cationic	Non-toxic, cationic, dishwashing, ore flotation, textile dyeing.
Miranol SS Miranol SS Conc.	Miranol Chemical Co.	Sulfonated fatty acid amide	Detergent	Powder	18%	anionic	Uses: General industrial and household cleaners, cosmetics, textile, paper mills. Miranol SS Conc. is 65% active.
Miranol T Conc.	Miranol Chemical Co.	Sulfonated fatty acid amides, plus an alkyl aryl sulfonate	Detergent	Powder	35%	anionic	A heavy duty detergent superior in this respect to the others of the series. Formerly Miranol XSD.
Mirapon RK Conc.	Miranol Chemical Co.	Sulfonated fatty acid amide, plus an alkyl aryl sulfonate	Detergent Wetting	Liquid	42%	anionic	pH of 1% sol. 7.8, non-toxic, very water-soluble.
Modicol S	Nopco Chemical Co.	A sulfonated fatty product	Dispersant	Liquid	40%	anionic	An emulsion stabilizer, particularly for latex.
Monad G	Colgate-Palmolive-Peet Co.	A sulfated monoglyceride of coconut oil	Detergent	Bead	31%	anionic	Use: Rug cleaners, bubble bath, laundry, dishwashing, etc.
Monamine ACO Monamine ADCO	Mona Industries, Inc.	A coconut fatty acid amine condensate	Detergent	Liquid	100%	nonionic	A shampoo base material. Monamine ADCO is a less pure grade.
Monolaurate of Polyethylene glycol	Various	As in name	Emulsifier			nonionic	Water dispersible. Uses: Cosmetics, detergents, insecticides.
Monosulph	Nopco Chemical Co.	Highly sulfonated castor c...	Penetrant Emulsifying	Liquid	68%	anionic	Textile dyeing assistant.

Trade Name	Manufacturer	Class and Formula	Main Uses	Form	% Conc.	Type	Remarks
Morcowet 446-C	Morton-Withers Chem. Co.		Wetting	Liquid		anionic	

Trade Name	Manufacturer	Class and Formula	Main Uses	Form	% Conc.	Type	Remarks
Morcowet 446-C	Morton-Withers Chem. Co.		Wetting Dispersing	Liquid		anionic	A dispersant for dyes, pigments and stearates. Also a wetting agent.
Morcowet 469	Morton-Withers Chem. Co.	Alkyl naphthalene sulfonate	Wetting	Liquid		anionic	A general wetting agent for textiles, etc.
Morpel X-838	Morton-Withers Chem. Co.	Syn. petroleum sulfonate	Emulsifier	Paste		anionic	Emulsifier for oils, kerosene and solvents.
Morpeloil X-479	Morton-Withers Chem. Co.	Sulfonic acid	Wetting	Liquid		anionic	Textile acid dyeing, and dispersant for TiO_2, etc. in viscose solutions.
Morpeloil X-508	Morton-Withers Chem. Co.	Sulfonic acid	Wetting	Liquid		anionic	Textile acid dyeing, etc.
Morpeltex AG	Morton-Withers Chem. Co.	A substituted fatty acid amide sulfonate	Detergent	Paste		anionic	Textile, scouring, softening agent. Very stable.
Morpeltex PM	Morton-Withers Chem. Co.	Alkyl naphthalene sulfonate plus amino condensation products	Wetting Detergent	Liquid		anionic	Textile scouring. Wet dry cleaning.
Morpeltex 498	Morton-Withers Chem. Co.	Alkyl naphthalene sulfonate plus amino condensation products	Wetting Detergent	Liquid		anionic	Textiles.
Morpelwet Z	Morton-Withers Chem. Co.	Aliphatic ester sulfate	Wetting	Liquid		nonionic	Textile, rewetting, softening, dye assistant.
Moytol	Standard Chem. Prod. Co.	Alkyl aryl sod. sulfonate	Wetting		30%	anionic	Textile.
Mulsor	Synthetic Chemicals, Inc.	Long chain fatty acid ester containing multiple ether linkages	Emulsifier	Liquid		nonionic	Soluble in mineral oil, kerosene and chlorinated hydrocarbons. Uses: preparation of soluble cutting oils, etc.
Myrj 45 Myrj 52 Myrj 59	Atlas Powder Co.	Polyoxyethylene stearate	Emulsifier	Solid, Paste	100%	nonionic	Oil in water emulsifier. Wide variety of uses in food, cosmetic and pharmaceutical preparations.
Myverol 18-85 Myverol 18-00 Myverol 18-05	Distillation Products Div. Eastman Kodak Co.	Monoglycerides purified by molecular distillation	Emulsifier	Solid	90%	nonionic	Myverol 18-85 is from cottonseed oil, 18-00 from refined lard and 18-05 from triple pressed stearic acid. Use: as a food emulsifier.
Naccolene F	National Aniline Div. Allied Chem. & Dye Corp.	Modified alkyl aryl sulfonate	Detergent	Liquid		anionic	Similar to Nacconol NR but more soluble in organic solvents.
Naccolene Conc.	National Aniline Div. Allied Chem. & Dye Corp.	Modified alkyl aryl sulfonate	Detergent	Paste		anionic	Detergent and emulsifying agent for use in organic liquids.
Nacconol EP	National Aniline Div. Allied Chem. & Dye Corp.	Alkyl aryl sulfonate	Wetting			anionic	Special for electroplating baths.
Nacconol FSNO	National Aniline Div. Allied Chem. & Dye Corp.	Alkyl aryl sulfonate	Detergent			anionic	Low taste for cosmetic or personal use.
Nacconol HG	National Aniline Div. Allied Chem. & Dye Corp.	Alkyl aryl sulfonate	Detergent	Flake	60%	anionic	Used in salt water soaps, alkaline mixtures and foaming composition.
Nacconol NR	National Aniline Div. Allied Chem. & Dye Corp.	Alkyl aryl sulfonate	Detergent Wetting	Flake	40%	anionic	Water solubility, 5% at 15° C., 21% at 100° C. One of best alkyl aryl detergents. Side chain single and long. Surface tension of 0.15% and 25° 33 dynes/cm.
Nacconol NRCL	National Aniline Div. Allied Chem. & Dye Corp.	Alkyl aryl sulfonate	Detergent Wetting	Liquid	38	anionic	Total solids above 40%, critical solubility temperature 0° C.
Nacconol NRSF	National Aniline Div. Allied Chem. & Dye Corp.	Alkyl aryl sulfonate	Detergent Wetting	Flake	92%	anionic	
Nacconol SSO	National Aniline Div. Allied Chem. & Dye Corp.	Alkyl aryl sulfonate	Detergent	Flake	100%	anionic	In development stage.
Nacconol Z	National Aniline Div. Allied Chem. & Dye Corp.	Alkyl aryl sod. sulfonate	Detergent Wetting	Flake	85%	anionic	Differs from Nacconol NR in active organic content.
Naccosol A	National Aniline Div. Allied Chem. & Dye Corp.	Sod. alkyl naphthalene sulfonate	Hydrotrope	Flake		anionic	Solubilizing Agent
Naccosol O	National Aniline Div. Allied Chem. & Dye Corp.	Alkylsulfoacetate (Alkyl approx. C_8)	Hydrotrope	Flake		anionic	Shampoos, etc. Development stage.

Trade Name	Manufacturer	Class and Formula	Main Uses	Form	% Conc.	Type	Remarks
Naccotan A	National Aniline Div. Allied Chem. & Dye Corp.	Alkyl aryl sod. sulfonate	Dispersing	Flake		anionic	Very water soluble, used in tanning chrome leather and for dispersion of solids and tars.
Naxonate G	Wyandotte Chemicals Corp.	Xylenesulfonate, Sod. salt	Hydrotrope Penetrating	Flake	95%	anionic	Useful in extraction due to hydrotropic properties.
Naxonate 4L	Wyandotte Chemicals Corp.	Aqueous sol. of Xylenesulfonate, Sod. salt	Hydrotrope Penetrating	Liquid	40%	anionic	Useful in extraction due to hydrotropic properties.
Negamine 142A	Synthetic Chemicals, Inc.	Amine ester of a long chain fatty acid	Wetting Emulsifying	Liquid	50%	cationic	
Nekal BA-75	Antara Chemicals Div. General Dyestuff Corp.	Sodium alkyl naphthalene sulfonate	Wetting Emulsifier Dispersant	Powder	70%	anionic	An acid and alkali stable wetting agent. Uses. Rubber polymerization, paint dispersion, printing inks, wallpaper and coated paper, textiles and leather. Formerly Antaron R-155.
Nekal BX-77	Antara Chemicals Div. General Dyestuff Corp.	Sodium alkyl naphthalene sulfonate	Wetting	Powder	70%	anionic	An acid and alkali stable wetting agent. Uses: Textile, paper, ruber, insecticides, metal cleaning, anti spotting agent, in film developing. Formerly Antaron R-275.
Nekal NF	Antara Chemicals Div. General Dyestuff Corp.		Wetting	Liquid	20%	anionic	Possesses good stability to acid, alka.. and hard water. Low foaming wetting agent for use in padding textile dyes, etc.
Nekal NS	Antara Chemicals Div. General Dyestuff Corp.	Sodium sulfonate of an organic ester	Wetting Dispersant	Liquid	22%	anionic	pH of 1% sol. 5.5-7.0. Water soluble. Strong wetting and rewetting agent in neutral systems. Wall paper removal, padding with direct dyes or pigment padding with vat colors. Formerly Antarane T-120.
Neomerpin	E. I. du Pont de Nemours & Co.	Derivative of alkyl naphthalene sulfonate	Wetting Emulsifying	Liquid		anionic	Very water-soluble. Stable to weak acids and alkalis.
Neomerpin N	E. I. du Pont de Nemours & Co.	Alkylated naphthalene sulfonic acid	Wetting	Liquid		anionic	Textile; dyeing, carbonizing, Leather; tanning.
Neopone R	Ultra Chem. Works	Ethylene oxide fatty acid condensate	Wetting Dispersing	Liquid	100%	nonionic	Textiles, as scouring agent, leather, etc.
Neutronyx 330	Onyx Oil & Chemical Co.	Poly alkyl ether condensate of fatty acids	Dispersing Emulsifying	Liquid	100%	nonionic	Cosmetics, salt water detergent, textile assistant.
Neutronyx 331 Neutronyx 332 Neutronyx 333	Onyx Oil & Chemical Co.	Poly alkyl ether condensate of fatty acids	Detergent Emulsifying	Liquid	100%	nonionic	Cosmetics, insecticides, general cleaners.
Neutronyx 600	Onyx Oil & Chemical Co.	Aromatic poly glycol ether condensate	Detergent Wetting	Liquid	100%	nonionic	General purpose detergent; for industrial and home uses.
Neutronyx 834	Onyx Oil & Chemical Co.	Fatty acid ester of a poly ether alcohol	Emulsifying	Liquid	100%	nonionic	Water dispersible. Oil in water emulsifier.
Ninex 21	Ninol Laboratories	Amido sulfonate complex	Detergent	Liquid		anionic	Liquid dishwashing detergent with stable foam.
Ninol 128	Ninol Laboratories	A fatty acid alkanolamide	Detergent	Liquid		nonionic	For making viscous cleaner-sanitizers.
Ninol 201 Ninol 713 Ninol HA10	Ninol Laboratories	A fatty acid alkanolamide	Emulsifier	Liquid		nonionic	A group of oil-soluble emulsifiers for general industrial use. Ninol 713 is a wax.
Ninol 737	Ninol Laboratories	A fatty acid alkanolamide	Detergent	Liquid		nonionic	Textiles, laundry, furs, cosmetics, etc.
Ninol 1001	Ninol Laboratories	A fatty acid alkanolamide	Detergent	Liquid		nonionic	Lower weight fatty acid base to give higher flash foam.
Ninol 1281	Ninol Laboratories	A fatty acid alkanolamide	Detergent	Liquid		nonionic	A base for synthetic and soap-synthetic floor cleaners. Gives viscous non-rusting solutions.
Ninol 2012	Ninol Laboratories	A fatty acid alkanolamide	Detergent	Liquid		nonionic	A detergent used for thickening solutions of other synthetics, as in shampoos.
Ninol AA62	Ninol Laboratories	A fatty acid alkanolamide	Detergent	Paste		nonionic	A foam-stabilizer for anionic detergents.
Ninol CB60	Ninol Laboratories	A fatty acid alkanolamide	Emulsifier	Wax		nonionic	An opacifier and pearlescer for liquid cream

Trade Name	Manufacturer	Class and Formula	Main Uses	Form	% Conc.	Type	Remarks
Ninol AA62	Ninol Laboratories	A fatty acid alkanolamide	Detergent	Paste		nonionic	A foam-stabilizer for anionic detergents.
Ninol CB60	Ninol Laboratories	A fatty acid alkanolamide	Emulsifier	Wax		nonionic	An opacifier and pearlescer for liquid cream shampoos.
Nionine PG	Amalgamated Chem. Corp.	Polyethylene glycol ester	Emulsifier Wetting	Liquid	25%	nonionic	Textile. pH of 1% soln. 6.5.
NNO NNOC	Atlas Powder Co.	Glycerol mannitan laurate	Wetting	Liquid	100%	nonionic	Used with insecticides and fungicides. NNOC is NNO diluted with Celite to form a free flowing 50% active powder.
Nonic 218	Sharples Chemicals, Inc.	Polyethylene glycol tertdodecyl thioether	Detergent Wetting	Liquid	95%	nonionic	Stable to alkali. Not stable to strong acids or oxidizing agents.
Nonic 234	Sharples Chemicals, Inc.	Polyethylene glycol tertdodecyl thioether	Detergent	Liquid	84%	nonionic	Detergent—Textile processing.
Nonic 261	Sharples Chemicals, Inc.	Polyethylene glycol tertdodecyl thioether	Emulsifier	Liquid	96%	nonionic	Emulsifier 261 replaces 5069.
Nonisol 100	Alrose Chemical Co.	A polyethylene glycol of lauric acid (Glycol-400)	Wetting Emulsifying	Liquid	100%	nonionic	Water soluble. Insoluble in kerosene and xylene. Uses: Cosmetics as emulsifier, thickening agent; textiles, hand cleaners, etc.
Nonisol 110	Alrose Chemical Co.	A polyethylene glycol of lauric acid (Glycol-400 plus 600 possibly)	Wetting Emulsifying	Liquid	100%	nonionic	Similar to 100 with glycol (600) probably replacing the 400 in part. Soluble in xylene. Uses: Coning oil and also as a fat emulsifier.
Nonisol 200	Alrose Chemical Co.	A polyethylene glycol (400) ester of oleic acid	Wetting Emulsifying	Liquid	100%	nonionic	Water dispersible, soluble in most organic solvents. Insoluble in kerosene. Emulsifier for kerosene. Use: cosmetics, insecticidal sprays, etc.
Nonisol 210	Alrose Chemical Co.	A polyethylene glycol ester of oleic acid (Possibly a mixture of Glycol 400 and 600)	Emulsifying		100%	nonionic	Soluble in kerosene. For uses see manufacturer's data.
Nonisol 250	Alrose Chemical Co.	A polyethylene glycol (1000) ester of oleic acid	Solubilizing Hydrotrope	Paste	100%	nonionic	Similar to Nonisol 150 with oleic replacing lauric. A solubilizing agent.
Nonisol 300	Alrose Chemical Co.	A polyethylene glycol (400) ester of stearic acid	Emulsifying Wetting	Paste	100%	nonionic	M.P. 30° C. Soluble in xylene, dispersible in water, insoluble in kerosene. A starch stabilizer.
Nopalcol 6-0	Nopco Chemical Co.	Ethylene oxide condensate of a fatty nucleus	Emulsifying	Liquid	100%	nonionic	Uses: Textiles, metal treating.
Nopco 1179-R	Nopco Chemical Co.	Fatty amino compound	Detergent	Liquid	30%	anionic	Very water soluble. Insoluble in kerosene. Uses: Textiles, leather, paper.
Nopco 1219-A	Nopco Chemical Co.	Fatty amino compound	Emulsifying	Liquid	100%	nonionic	Designed for chlordane emulsification. Soluble in xylene and petroleum products.
Nopco 1248-X	Nopco Chemical Co.		Emulsifier	Liquid	58%	nonionic	An emulsion base for wax polishing compounds.
Nopco 1285	Nopco Chemical Co.	Sulfated fatty ester	Penetrant	Liquid	65%	anionic	Textile; dyeing assistant.
Nopco 1408	Nopco Chemical Co.	Sulfated castor oil soap	Emulsifying	Liquid	45%	anionic	Cosmetics, as foaming agent in shampoos, also in textiles as vat dye assistant.
Nopco 2031	Nopco Chemical Co.	Sulfated hydroxy stearic acid	Wetting	Liquid	60%	anionic	Stable to acid and alkali. Water soluble. Slightly soluble in kerosene. Uses: metal cleaning, rubber reclaiming, etc.
Nopco 2251-B	Nopco Chemical Co.		Emulsifier	Solid	96%	anionic	Paraffin wax emulsifier.
Nopco 2272-R	Nopco Chemical Co.	Sulfated fatty ester	Wetting	Liquid	65%	anionic	Textile, paper, rubber, metal cleaning.
Nopco HBX-2	Nopco Chemical Co.	Sulfonated oil blend	Emulsifier	Liquid	100%	nonionic	An emulsifying agent designed for chlordane.
Nopcocide K	Nopco Chemical Co.	Quaternary ammonium salt	Germicide	Cryst.	100%	cationic	Water soluble. Insoluble in kerosene. Uses: sanitizer for dairies, etc.
Nopcogen 14-L	Nopco Chemical Co.	Fatty amino compound	Emulsifying Dispersing	Liquid	100%	nonionic	A dispersant and emulsifier for fatty esters, pigments, etc. Uses: textile, wool processing; leather, degreasing, etc.
No-Strip No-Strip Conc.	Nostrip Division of Maguire, Inc.	An amine condensation product with tall oil	Wetting	Liquid	37%	nonionic	Designed for asphalt binding to wet stone. Approx. 1% is required. Concentrated form is made at 75% active.

Trade Name	Manufacturer	Class and Formula	Main Uses	Form	% Conc.	Type	Remarks
Novonacco	National Aniline Div. Allied Chem. & Dye Corp.	Modified sod. alkyl naphthalene sulfonate	Wetting			anionic	Textiles.
Novonacco NN	National Aniline Div. Allied Chem. & Dye Corp.	Alkyl naphthalene sulfonic acid	Wetting			anionic	Textile, wool carbonizing.
NSAE-Powder Paste	Onyx Oil & Chemical Co.	Sod. alkyl naphthalene sulfonate	Wetting Emulsifying	Powder, Paste	85%	anionic	Textile processing; dye levelling; electroplating.
Nullapon BF Acid	Antara Chemicals Div. General Dyestuff Corp.	Ethylene diamine tetra acetic acid	Sequestering	Powder	100%	anionic	Superior to citric acid for preventing precipitation of iron.
Nullapon BF-12	Antara Chemicals Div. General Dyestuff Corp.	Sodium salt of ethylene diamine tetra acetic acid	Sequestering	Liquid	34%	anionic	Chelate compound formed with metal ions is stable in aqueous solutions.
Nullapon BF-78	Antara Chemicals Div. General Dyestuff Corp.	Sodium salt of ethylene diamine tetra acetic acid	Sequestering	Powder	90%	anionic	
Nullapon FA-15	Antara Chemicals Div. General Dyestuff Corp.		Sequestering	Liquid	55.5%	anionic	A sequestering agent for iron in highly alkaline solution of pH 11 plus.
Nullapon FE-12	Antara Chemicals Div. General Dyestuff Corp.		Sequestering	Liquid	35%	anionic	A sequestering agent for iron in solutions of pH 7.
Nytron Regular	Solvay Process Div. Allied Chem. & Dye Corp.	Complex mixture of sulfonated ketones, amines, alkyl sulfamates, etc.	Detergent Wetting	Granular	35%	anionic	General detergent for household and industrial purposes. Solubility in water is 35% by weight at 77° F. Stable in acids and alkalies.
Nytron Powdered	Solvay Process Div. Allied Chem. & Dye Corp.	Complex mixture of sulfonated ketones, amines, alkyl sulfamates, etc.	Detergent Wetting	Granular	35%	anionic	Nytron Powdered is chemically same and the same color as Nytron Regular but has greater bulk density and finer particle size.
Nytron OW	Solvay Process Div. Allied Chem. & Dye Corp.	Hydrocarbon sulfonate	Wetting Detergent	Granular	35%	anionic	OW is different in composition from the other Nytrons. A white, light density product designed for blending with alkalies.
Octab	Fairfield Laboratories	Octadecyl dimethyl benzyl amm. chloride $C_{18}H_{37}(CH_3)_2N(C_6H_5CH_2)Cl$	Germicide Wetting	Cryst.	100%	cationic	Pharmaceutical grade. Phenol Coeff. at 37° C. against S.A. 200-250.
Octimet	Fairfield Laboratories	Octadecyl dimethyl ethyl ammon. bromide	Wetting Germicide	Cryst.	100%	cationic	Fungicide. See also Ethyl Cetab. Phenol Coeff. at 37° C. against S.A. 150-200.
Ondal A	E. I. du Pont de Nemours & Co.	Blended product	Detergent	Powder		anionic	Contains detergent plus oxidizing chemicals to develop vat dyes. Textiles.
Onyxide	Onyx Oil & Chemical Co.	Alkenyl dimethyl ethyl ammonium bromide	Algaecide	Paste	75%	cationic	The alkenyl group is a mixture of aliphatic hydrocarbon radicals, principally unsaturated, containing approx. C_{18} carbons.
Onyxol 9162 Onyxol 336	Onyx Oil & Chemical Co.	A fatty alkanolamide	Detergent Wetting	Liquid	95%	nonionic	A wool scouring agent. Onyxol 336 is a 100% active product designed for use in preparing household liquid detergents.
Onyxsan AD Onyxsan LG Onyxsan HSB Onyxsan S	Onyx Oil & Chemical Co.	Complex organic amide	Softening	Paste		cationic	Textile, leather. U. S. Pat. 2,200,815.
Oratol 1 48	Jacques Wolf & Co.	Sod. salt of a sulfoester of a fatty alkanolamide	Detergent Wetting	Paste	25%	anionic	Water soluble, kerosene insoluble.
Oronite Purified Sod. Sulfonate L and LZ	Oronite Chemical Co.	Sod. benzene sulfonate with short alkyl side chains totaling approx. C_{18}	Emulsifier	Liquid	65%	anionic	Uses: Cutting oils, emulsion breakers, rust preventive, fat splitting. LZ grade is combined sod. sulfonate and sod. naphthenate.
Oronite Sod. Sulfonate 5	Oronite Chemical Co.	Alkyl aryl sod. sulfonate and sod. naphthenate	Emulsifier	Liquid	47%	anionic	A water dispersible, hydrocarbon soluble compound. Useful for cutting oil and cooling base oil.

Trade Name	Manufacturer	Class and Formula	Main Use	Form	% Conc.	Type	Remarks
Oronite Wetting Agent S	Oronite Chemical Co.	Alkyl aryl sod. sulfonate	Emulsifier Detergent	Paste	52%	anionic	Uses: Fruit peeling and washing, textile and leather dyeing, and washing rugs and upholstery. All purpose emulsifier and wetting

Trade Name	Manufacturer	Class and Formula	Main Use	Form	% Conc.	Type	Remarks
Oronite Wetting Agent S	Oronite Chemical Co.	Alkyl aryl sod. sulfonate	Emulsifier Detergent	Paste	52%	anionic	Uses: Fruit peeling and washing, textile and leather dyeing, and washing rugs and upholstery. All purpose emulsifier and wetting agent.
Oronite Wetting Agent	Oronite Chemical Co.	Alkyl aryl sod. sulfonate	Wetting	Paste	66%	anionic	Agricultural sprays, textile and leather cleaning and dyeing, fruit processing, metal treatment.
Orthemul	Fine Organics, Inc.		Emulsifier	Liquid			An emulsifier for orthodichlorobenzene for use in controlling bacterial decomposition in garbage dumps.
Orthocen K	Am. Aniline & Extract Co.	Sulfated cresylic acid	Wetting Penetrating			anionic	Textile. See also Xylene sod. sulfonate, etc.
Orvus ES Paste	Procter & Gamble Co.	Sod. alkyl sulfate partly modified	Detergent Wetting	Paste		anionic	Special product for textile scouring and dyeing.
Orvus Neut. Granules	Procter & Gamble Co.	Essentially alkyl aryl sulfonate	Detergent Wetting	Granules		anionic	Industrial cleaner. Textile scouring and dyeing.
Orvus Extra Granules	Procter & Gamble Co.	Essentially sodium alkyl sulfate and alkyl aryl sulfonate	Detergent	Granules		anionic	Built heavy duty type detergent and cleaner.
Orvus WA Paste	Procter & Gamble Co.	Sod. alkyl sulfate	Detergent Wetting	Paste		anionic	Industrial cleaner, textile scouring, dyeing and bleaching assistant.
Padasol	Jacques Wolf & Co.	Sod. alkyl aryl sulfonate	Wetting Dispersing	Liquid		anionic	Textiles as a dyestuff dispersant.
Parachlorobenzene sod. sulfonate Monohydrate	Pennsylvania Salt Mfg. Co.	$ClC_6H_4SO_3Na.H_2O$	Hydrotrope Emulsifier	Cryst.	100%	anionic	Compares with Cymene and Xylene sodium sulfonate. Use: solubilizing agent, ore flotation, peptizing agent.
Parnol Parnol-Conc. Parnol-85	Jacques Wolf & Co.	Dodecyl benzene sod. sulfonate	Wetting Emulsifying	Powder	40%	anionic	Soluble up to 5% in water, oil in water emulsifier. Use: Textiles. Parnol Conc. is a 95% active solid. Use: Household detergents. Parnol-85 is an 85% active. Use: Textiles and industrial cleaners.
Peg-42	Glyco Products Co.	Polyoxyethylene stearate	Emulsifying Dispersing	Paste	100%	nonionic	Food emulsifying and dispersing agent.
Pegy	Standard Chem. Products, Inc.	Polyglycol ester of fatty acids	Emulsifier	Liquid		nonionic	General emulsifier for oil and solvents.
Penequik	L. Sonneborn Sons, Inc.	Sulfonated ester	Wetting Penetrating			nonionic	Textiles, as a softening agent.
Penetrant 60	Beacon Co.	Sod. and pot. salts of sulfonated esters of dicarboxylic acids	Wetting Penetrating			anionic	Textiles, paper, leather.
Penetrant 65	Beacon Co.					anionic	Textiles, paper, leather, etc.
Penetrant 100	Proven Products		Emulsifier Wetting	Liquid	100%	nonionic	Use: Leather mfg.
Penetrator WH-9	Apex Chemical Co.	Amino condensate	Wetting Penetrating	Liquid	100%	nonionic	A wetting agent for the textile trade.
Penetrolin AC	Arkansas Co.	Alkyl naphthalene sod. sulfonate	Wetting	Liquid	30%	anionic	Textile, penetrant for wool carbonizing.
Pensyn L206 Pensyn L65	Peck's Products Co.	Alkyl aryl sod. sulfonate	Detergent	Liquid	26%	anionic	An industrial cleaner. Pensyn L65 is same with 65% active content.
Penetergent T	Jacques Wolf & Co.	Alkyl aryl sod. sulfonate	Detergent Wetting	Powder	40%	anionic	Textile scouring and dye levelling.
Perma Kleer-50	Refined Products Corp.	Sod. salt of a polyaminocarboxylic acid	Sequestering	Liquid	45%	anionic	See also Nullapon, Versene, Sequestrene. Forms complex compounds with Fe, Ca, Mg, etc.
Perma Kleer-53 Perma Kleer-SP Perma Kleer-OH	Refined Products Corp.	Sod. Salt of a polyaminocarboxylic acid	Sequestering	Liquid	52%	Anionic	Special for sequestering iron and calcium. Perma Kleer-SP is a 60% active solution particularly designed for iron sequestering. Perma Kleer-OH is for iron and calcium in caustic solution.

Trade Name	Manufacturer	Class and Formula	Main Uses	Form	% Conc.	Type	Remarks
Permalene A-100	Refined Products Corp.	Fatty amide condensate	Detergent Emulsifying	Liquid	100%	nonionic	Textile.
Perma Par-ACA-100 Perma Par-R	Refined Products Corp.	Substituted long chain secondary amine	Detergent Softener	Solid	100%	cationic	Textile softening and acid scouring agent. Perma Par R is 22% active of above in paste form.
Persol 40	Perkins Soap Co.	Igepon T type detergent	Detergent	Liquid	40%	anionic	Acid and alkali stable. Uses: General household and industrial cleaner.
Petromix	L. Sonneborn Sons, Inc.	A modified petroleum sulfonate	Emulsifier	Liquid		anionic	Used wherever a soluble oil base emulsifying agent is required.
Petronate Petronate-L Petronate-H	L. Sonneborn Sons, Inc.	A petroleum sulfonate	Wetting	Liquid	62%	anionic	A group of products differing in molecular wt. made from by-products of oil refining. Useful in cutting oils, rust preventives, leather oils, lube oil additives, etc.
Petrowet R	E. I. du Pont de Nemours & Co.	Aliphatic hydrocarbon sodium sulfonate	Detergent Wetting	Liquid		anionic	An emulsion breaker. Use: Acidizing oil wells, etc.
Petrowet WN	E. I. du Pont de Nemours & Co.	Fatty alcohol sodium sulfate	Wetting Emulsifying	Liquid		anionic	For wetting and penetrating on acid solution.
Pex	Peck's Products Co.	A mixed alkyl aryl sulfonate and alkanolamide	Detergent	Liquid	30%	anionic	An industrial cleaner (Pat. applied for).
pHisoderm pHisoHex	Winthrop-Stearns, Inc.	Sulfonated ether, etc.	Detergent	Liquid	74%	anionic	A fluid cream type detergent for special medical purposes. Hypoallergenic. pHisoHex is pHisoderm plus 3% hexachlorophene, total weight basis.
Phi-O-Sol. WA	Onyx Oil and Chem. Co.	A sulfated ester of a fatty acid	Wetting Penetrating	Liquid		anionic	A carboxylic acid ester sulfate. See U. S. Pat. 2,032,314.
Pluronics L 44 Pluronics L 62 Pluronics L 64	Wyandotte Chemicals Corp.	A condensate of ethylene oxide with a hydrophobic base formed by condensing propylene oxide with propylene glycol.	Detergent Emulsifier Dispersing	Liquid	100%	nonionic	Mol. wt. of L62 and L44 is about 2000. Mol. wt. of L64 is about 3000. Stable to boiling 25% alkali or 10% acid for 15 min. Use: Dishwashing compounds, textile soaping-off prints, dye levelling, etc.
Pluronics F 68	Wyandotte Chemicals Corp.	A condensate of ethylene oxide with a hydrophobic base formed by condensing propylene oxide with propylene glycol.	Detergent	Flake	100%	nonionic	As an additive to general detergent compositions which require free flowing characteristics.
Polyethylene Glycol Esters of Fatty Acids	Glyco Products Co. Kessler Chem. Co., etc.	As named	Emulsifying		100%	nonionic	Not a trade name product, but given here for reference.
Polymene G-24	Quaker Chem. Products Corp.	Fatty amide condensate	Wetting Emulsifying Lubricant	Liquid	98%	nonionic	Textile.
Prell (retail)	Procter & Gamble Co.		Detergent	Cream		anionic	Hair shampoo.
Prestabit Oil V	Antara Chemicals Div. General Dyestuff Corp.	Sulfated fatty acid	Emulsifier	Liquid		anionic	An emulsifier for solvent cleaners, cutting oils, furniture and shoe polishes. Good solubility in high ion conc. solutions. Aid in clarifying of viscose solutions during processing of viscose rayon. Aid in the filtration of mother liquors from crystallizing tanks. Also used in the processing of textiles.
Product BCO	E. I. du Pont de Nemours & Co.	Quaternary ammonium compound	Detergent	Liquid		amphoteric	This product is amphoteric being cationic in acid and anionic in alkaline solutions. A textile agent for dye levelling, wool scouring, alkaline peroxide bleaching.
Proflex	Glyco Products Co.	A modified protein	Emulsifying	Powder	92%	anionic	Insoluble in mineral oils, hydrocarbons, alcohol, kerosene. Water dispersible. An emulsifier for water paints.

Trade Name	Manufacturer	Class and Formula	Main Uses	Form	% Conc.	Type	Remarks
Purasan AD Purasan DC	Gallowhur Chemical Co.	Alkyl dimethyl benzyl ammonium chloride	Germicide	Liquid	50%	cationic	Use in sanitary compounds in the dairy field, etc.

Trade Name	Manufacturer	Class and Formula	Main Uses	Form	% Conc.	Type	Remarks
Purasan AD Purasan DC	Gallowhur Chemical Co.	Alkyl dimethyl benzyl ammonium chloride	Germicide	Liquid	50%	cationic	Use in sanitary compounds in the dairy field, etc. See also Cetol, Binol A, etc.
Pyrolene	Standard Chemical Prod., Inc.	Sulfonated fatty amide condensation product	Detergent	Liquid	34%	anionic	Textile scouring agent.
Pyrotex	Standard Chemical Prod., Inc.	Sulfonated fatty amide condensation product	Detergent	Liquid	34%	anionic	Textile dyeing assistant.
Pyrotex 121 Pyrotex 330	Standard Chemical Prod., Inc.	Sulfonated fatty amide condensation product	Detergent	Paste	30%	anionic	Textile boil off assistant. Pyrotex 330 is a 50% active concentration.
Quakester 437	Quaker Chem. Prod. Corp.	Complex glycol ester	Detergent	Liquid	100%	nonionic	Industrial cleaners.
Quakester 589	Quaker Chem. Prod. Corp.	Complex glycol ester	Wetting Detergent	Liquid	100%	nonionic	Industrial cleaners.
Quaternary C Quaternary O Quaternary S	Alrose Chemical Co.	Quaternized Alro Amine C, O, S	Detergent	Liquid	100%	cationic	Solvent soluble.
Quatronyx	Onyx Oil & Chem. Co.	Quaternary ammonium compound	Wetting Penetrating	Liquid		cationic	Stable in acid, alkila and high concentrations of salt.
Quix	E. F. Drew & Co.	Sulfated fatty acid amide	Wetting				Paper, textile, leather.
Quixite	E. F. Drew & Co.	Sulfated fatty acid amide	Detergent				Textile, leather.
Regal	Armour & Co.	Alkyl aryl sod. sulfonate	Detergent Wetting	Flake	40%	anionic	Textiles, metal cleaning, household detergent.
Renex Renex-25	Atlas Powder Co.	Polyoxyethylene ester of mixed fatty and rosin acids	Detergent	Liquid	100%	nonionic	For compounding cleaning preparations and for textile processing. Renex 25 is Renex plus urea to form a free flowing powder, useful for compounding with alkalies. A detergent for cotton.
Repcol A-100 Repcol A-20	Refined Products Co.	Modified fatty amine condensate	Detergent Wetting	Liquid	100%	nonionic	Use: As textile scouring agent in car washing and dishwashing compounds. Repcol A-20 is a 25% active soln.
Repcol Emulsifier	Refined Products Co.	Modified fatty acid condensate	Emulsifier	Liquid	100%		Use: Agricultural sprays, textile emulsifier.
Repcolene	Refined Products Co.	A modified fatty acid ester	Detergent	Liquid	25%	nonionic	A textile scouring and dyeing agent.
Repcolene K-50 Repcolene K-50 Special Repcolene K-50-100	Refined Products Co.	A modified fatty amine condensate plus sequestrants	Detergent	Liquid	25%	anionic	A household type detergent. Repcolene K-50 special is a 70% active soln. Repcolene K-50-100 is 100% nonionic paste without sequestrants.
Repso P-150	Refined Products Co.		Detergent	Solid	100%	cationic	Use: Metal cleaning. Formerly Repso MF.
Resolin B	Sandoz Chemical Co.	A substituted hydrocarbon	Wetting				Textile.
Resolin NF	Sandoz Chemical Co.	A substituted hydrocarbon	Wetting				Leather.
Rinfors S	Sandoz Chemical Co.	Emulsified solvents	Detergent				Textile.
RN-Sol #1	Riches-Nelson Co.	An ester	Wetting	Liquid	100%	nonionic	Thickening agent. Low foam value. pH of 1% sol. 6.
RN-Sol #2	Riches-Nelson Co.		Emulsifying	Liquid	100%	nonionic	An emulsifier for DDT, etc.
RN-Gel	Riches-Nelson Co.		Wetting	Paste	17%	anionic	Stable to mild acid and alkali solutions. Uses: Cosmetics, textile dyeing.
RN-Water Softener A	Riches-Nelson Co.	A polyamino carboxylic acid salt	Sequestering	Liquid	50%	anionic	Similar to Nullapon or Sequestrene in type and use.
RN-20L	Riches-Nelson Co.	Alkyl aryl sulfonate	Detergent Wetting	Liquid	20%	anionic	Not recommended in presence of heavy metals.
RN-31	Riches-Nelson Co.	Modified alcohol sulfate	Detergent Wetting	Powder	31%	anionic	pH neutral. Uses: Textiles, household cleaners.

(To be concluded)

NEW
KLEAN
SPOT
KIT
the All-Purpose Cleaning Trio
Take it with you everywhere
Take it with you everywhere
Take it with you everywhere
Take it with you everywhere
Take it with you everywhere
KLEAN Spot KIT
Clean and Spot
ROL
EASY DISHWASHING
MORE SUDS! FASTER SUDS!
ROL
BRIGHTER DISHES
cheer
IT'S NEW!
IT'S BLUE!
cheer
WASHES CLOTHES
CLEANER AND WHITER
DRAIN PIPE CLEANER
Bilco
DOUBLE ACTION CLEANER
CLEANS AND OPENS CLOGGED DRAINS

WHAT'S NEW?

FACING PAGE

Upper left: new "Klean Spot Kit" of Briggs Manufacturing Co., Detroit, uses counter display and related individual carton made by the Cleveland Cartons division of Robert Gair Co., New York.

• • •

Test marketing on "Rol" liquid detergent of Fels & Co., Philadelphia, is now under way in Trenton, N. J. Bottle contains six-ounces and is supplied by Owens-Illinois Glass Co., Toledo, as is cap.

• • •

Procter & Gamble Co's newest detergent, "Blue Cheer" (lower left) was introduced in the metropolitan New York market late last month. It is said to contain a whitening agent that makes it possible for the blue granules to wash clothes clean without the need for bluing.

• • •

New drain pipe cleaner (lower right) being marketed by Double Action Chemical Corp., Brooklyn, subsidiary of Bilco Chemical Co., is available in 28 ounce and 14 ounce can sizes shown. Label is lithographed in three colors, and the can is by Bushwick Can Co., Brooklyn. Also sold under private label.

• • •

"Bath-Roomers" (above) new para-chlorophyll toilet bowl deodorant is being packaged for syndicate and chain stores by Click Chemical Co., Mount Vernon, N. Y. Three two-ounce cakes come to a box. A similar package, also by Brooks & Porter, Inc., New York, featuring three four-ounce cakes is available for sanitary supply jobbers.

• • •

Top right is new "Bug-Gil" convection type, low temperature lindane vaporizer developed at the University of Michigan Laboratories, and being marketed by Lindavap Corp., Ann Arbor. Exterior of the vaporizer is hammered silver.

• • •

Household detergents shown in photo center, right, are made by Jose Franchini, Ltd., Avellaneda, Argentina. In the left foreground is "Andinix" powder shampoo. The egg-shaped package next to it is for the paste form. Both are sodium lauryl sulphate based. Package in left background is household detergent for woolen articles, and a dishwashing detergent trade named "Chapaleo" is in right, rear.

• • •

"Pert" (right), Procter & Gamble's new home permanent wave requiring no neutralizer, is latest addition to company's line of toilet goods products.

No wonder they say—

"There's cleaning magic in Barcolene"

Whether the job is cleaning white wall tires or car upholstery . . . walls and woodwork . . . the family wash . . . or any one of a dozen other cleaning tasks, Barcolene is a mighty handy helper. This all purpose cleaner with its famous "Loosening-Action" gets things cleaner . . . faster and easier.

● The Barcolene Company of Boston, Massachusetts, manufacturers of Barcolene, seals this product with Crown Screw Caps. These closures are made to the highest standards of precision manufacture. They have the famous Deep Hook Thread that assures a more dependable seal. The liners in this closure are scientifically selected for the particular product. If you want to be sure of trouble-free sealing . . . investigate the merits of Crown Closures. Crown Cork & Seal Company, Baltimore 3, Maryland. *World's Largest Makers of Metal Closures.*

CROWN CLOSURES

Approved by millions of housewives

News

Stern Joins Kamen

William R. Stern, formerly associated with the chemical specialties division of E. F. Drew & Co., New

WILLIAM R. STERN

York, recently joined Kamen Soap Products Co., New York, as assistant sales manager. He serves under F. H. Guernsey, director of sales. Mr. Stern, a native New Yorker, attended the University of Alabama and also holds a degree in transportation law. During World War II he served as an officer in the Airborne Infantry. Following sales management experience with a rope concern, he entered the chemical specialties field.

Armour Shifts D'Angelo

W. N. D'Angelo, previously soap sales manager for Armour & Co., Chicago, at Jacksonville, Fla., has recently been appointed soap sales manager for the firm in the Chicago city district.

Mendoza Shuts Down

Mendoza & Cia., one of the oldest manufacturers of soap in South America, shut down their plant in Caracas, Venezuela, early last month and have retired from the soap business. Growing competition from new products and a decline in soap demand throughout Venezuela are given as the reasons for the shut down. The company in addition to being one of the oldest soap firms was one of the few manufacturing a full line of milled toilet and laundry soaps in a modern plant in Venezuela. With the closing down of the Mendoza factory, the source of "Palmolive Soap" for the Venezuelan market has been temporarily suspended. The company for some years had manufactured this well-known toilet soap for Colgate-Palmolive-Peet.

Soap Controllers to Meet

A special industry conference of controllers of companies in the soap, cosmetic, and drug fields will be part of the 21st annual meeting of the Controller Institute, it was announced recently. The convention will take place October 5-8 at the Sheraton-Cadillac Hotel, Detroit. Topics to be discussed at the meeting include atomic energy, electronic accounting, cost reduction, budgeting, and economic education for employees.

Ritchey Leaves P & G

John A. Ritchey recently resigned as supervisor of production at the Port Ivory, Staten Island, N. Y., plant of Procter & Gamble Co., Cincinnati. He becomes assistant professor of industrial engineering at Purdue University on September 15.

New Sharples Surfactant

Sharples Chemicals, Inc., Philadelphia, recently announced availability of "Nonic 261," a new addition to its "Nonic" line of surface active agents. Chemically it is a polyethylene glycol tert-dodecylthioether of a lower ethylene oxide content than that present in "Nonic 218." Because of its lower ethylene oxide ratio it is more hydrophobic in nature and exhibits greater oil solubility. According to the manufacturer it is a good wetting agent and an effective emulsifier for animal, fish and mineral oils. More detailed information on the new product is available from Sharples on datasheet B-52.

In Refined Prods. Post

The appointment of Harold A. Sweet as director of the industrial division of Refined Products Corp.,

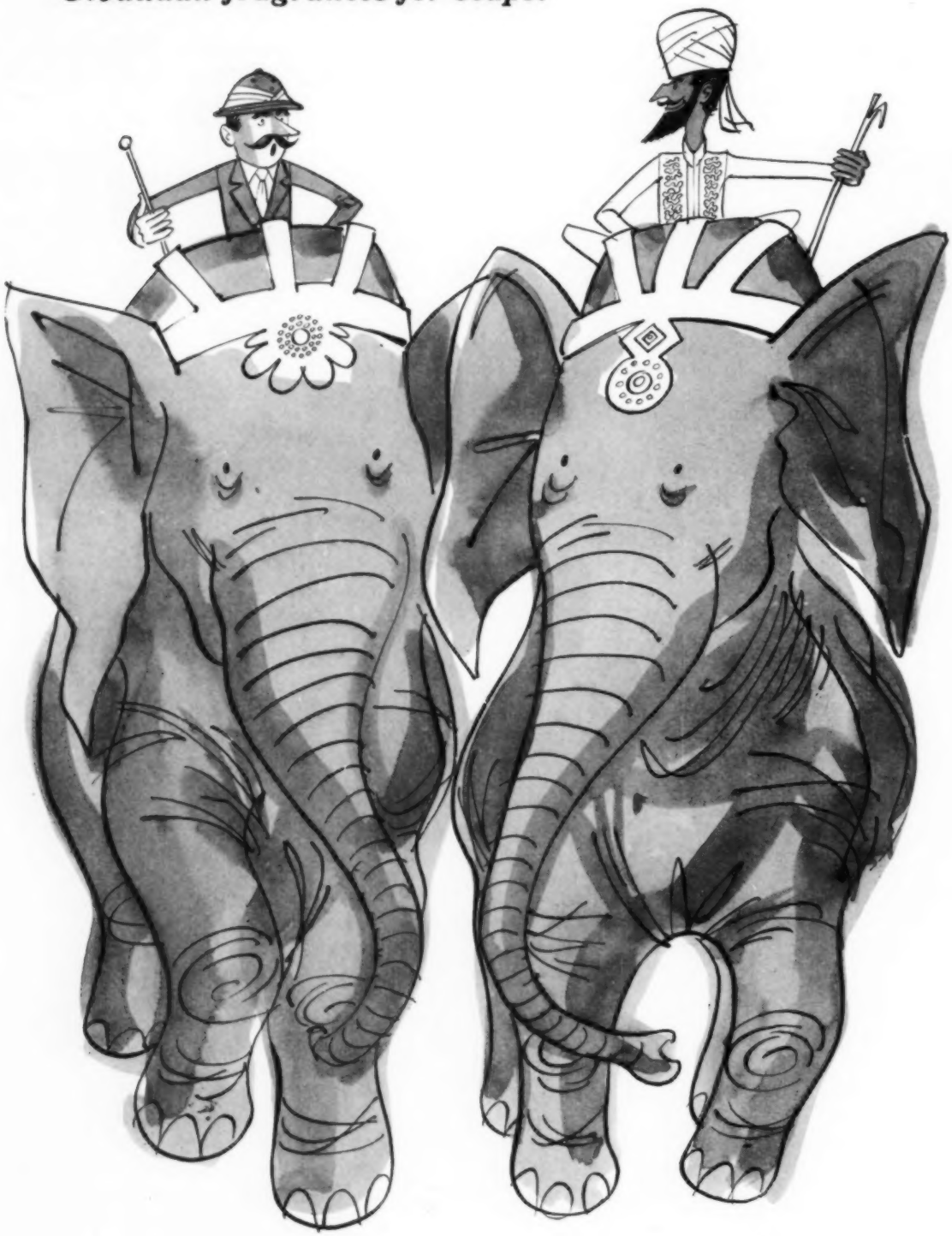
HAROLD A. SWEET

Lyndhurst, N. J., has just been announced. Before joining Refined Products Corporation, Mr. Sweet was in the sales and sales development department of General Dyestuff Corp., New York, a division of General Aniline and Film Corp. He was one of the pioneers in the sales development of synthetic detergents, wetting agents and emulsifiers, joining General Dyestuff Corporation in 1931 for this special work. Before this, Mr. Sweet was for several years a department head in the manufacturing division of General Aniline Works division of General Aniline and Film Corp.

Gillam Seeks Refund

E. O. Gillam, president of Gillam Soap Works, Fort Worth, recently asked for a refund of $100 which he contributed to the Democratic National Committee before the Chicago convention. Mr. Gillam acted as campaign manager for Democratic presidential nominee aspirant Senator Estes Kefauver in Texas. He is quoted as saying that a broken promise by President Truman not to interfere and the Presidential word that an open convention would be held are reasons for his discontent and have prompted him to ask for the refund.

"Yes, been riding high ever since I discovered Givaudan fragrances for soaps."



For information about soap-selling fragrances, write to

Givaudan-Delawanna, Inc.

330 West 42nd Street, New York 36, N. Y.

STEVEN J. POST

Post to Borne-Scrymser

Appointment of Steven J. Post as director of marketing of Borne-Scrymser, Elizabeth, N. J., producers of petroleum oils and greases, including petroleum sulfonated oils, was announced late in August. Mr. Post was formerly with Airkem, Inc., New York, where he held various administrative posts, in addition to doing private market consulting. Earlier he had been sales manager of the industrial division of International Latex Corp., Dover, Del., and general sales manager of Gallowhur Chemical Co., New York. Mr. Post also had been with American Cyanamid Co., and the Barrett Division of Allied Chemical & Dye Co., New York.

P & G Sales Down

Net sales of Procter & Gamble Co., Cincinnati, for the fiscal year ended June 30 fell to $818,084,833 from sales in the preceding year amounting to $860,687,707, the firm announced in its annual report issued recently. Net income in 1952 was $41,715,757 after income taxes amounting to $50,636,122, compared with a net income of $51,280,231 in 1951 after income taxes of $63,019,013. Earnings per common share in 1952 amounted to $4.32 compared to $5.31 in 1951. Common dividends in 1952 were $24,995,209 as against $28,837,866 in 1951.

According to Richard R. Deupree, chairman of the board, sales volume had not declined during the year in spite of the dollar drop shown. He said that the decrease in dollar sales was the result of lower prices per unit sold.

Shulton Buys in Calif.

Shulton, Inc., New York, purchased a building in Culver City, Calif., which will be converted into a distribution warehouse and branch office, according to a recent announcement by George L. Schultz, president. The new building, twice the size of the quarters that the company has rented in downtown Los Angeles for the past ten years, will provide labor-saving production with one-floor operation and pallet-type storage.

The enlarged office space will be headquarters for Norton Breiseth, Shulton West coast manager, his staff of seven salesmen, and the branch's general office staff.

Wrisley Names Two

Stanley J. Smith, formerly of Ortho Pharmaceutical Corp., New York, is now representing the drug and department store division of Allen B. Wrisley Co., Chicago, in the Texas territory, according to a recent announcement. H. T. Patterson, Wrisley representative in the Rocky Mountain area replaces H. Mundt, Wrisley representative in Los Angeles.

Jergens Names Campbell

Appointment of Roland P. S. Campbell as vice-president in charge of advertising was announced recently by Andrew Jergens Co., Cincinnati. Mr. Campbell was formerly product manager in charge of sales and advertising at Post Cereals, a division of General Foods Corp., New York.

First Half Year Soap Sales Down

A DECLINE in sales of soaps and detergents for the first half of 1952 was recently reported by the Association of American Soap & Glycerine Producers. Total sales at plant of all soaps and detergents amounted to 1,693,132,372 pounds, worth $339,592,344, according to figures based on reports of 86 manufacturers. This is a decline of 2.7 percent in terms of pounds and 13.8 percent on a dollar basis from the first six months of 1951.

Sales of non-liquid soaps in the first six months of 1952 amounted to 950,856,000 pounds, valued at $178,018,000, seventy-eight participating manufacturers reported. Sales totaling 912,091,000 pounds, a decline of 13.8 percent, valued at $173,161,000, representing a decline of 27.0 percent, were reported by fifty-three manufacturers, who have continuously participated in the census.

Sales of non-liquid soaps for the second quarter of 1952 totaled 442,435,000 pounds compared with 469,656,000 pounds for the first 1952 quarter and 386,015,000 pounds for the second quarter of 1951. Dollar-wise second-quarter sales this year were 8.4 percent under the previous quarter and 5.9 percent under the same period a year ago.

Liquid soap sales during the first half of 1952 reported by fifty manufacturers, amounted to 2,861,000 gallons valued at $3,793,000, compared with 2,915,000 gallons valued at $3,939,000 reported for the same period in 1951. Comparable figures from 35 manufacturers show total sales of 1,599,000 gallons, a decline of 3.6 percent from a year ago, with a dollar value of $2,629,000 representing an increase of 0.8 percent over 1951. Liquid soap sales of 35 companies totaled 809,000 gallons in the second quarter of 1952, 2.4 percent more than in the previous quarter and 1.6 percent more than in the same period in 1951. Second quarter liquid soap sales were worth $1,393,000 or 12.7 percent more than during the previous quarter and 4.0 percent more than during the same period in 1951.

First half '52 sales of synthetic detergents for which comparative figures are not yet available, totaled 719,319,000 pounds valued at $157,782,000, based on figures of 34 companies. Sales of thirty-seven manufacturers for this same period in 1951 totaled 611,528,000 pounds valued at $157,782,000. Second quarter sales of thirty-four companies totaled 365,327,000 pounds, compared with 354,064,000 pounds sold in the first quarter.

Save! Cut costs...

without cutting quality!

Depend on Du Pont

ESSENTIAL OIL REPLACEMENTS

Looking for complete substitutions . . . or extenders . . . for high-priced, hard-to-get natural oils? You'll want to consider these Du Pont Essential Oil Replacements . . . economical for their top quality . . . available in large quantities.

CANANGA SYNTHETIC 51 — $5.75 per trial lb. More economical than Ylang Ylang and Cananga, and faithful to the character of the natural oil. (Particularly well suited for use in white soap.)

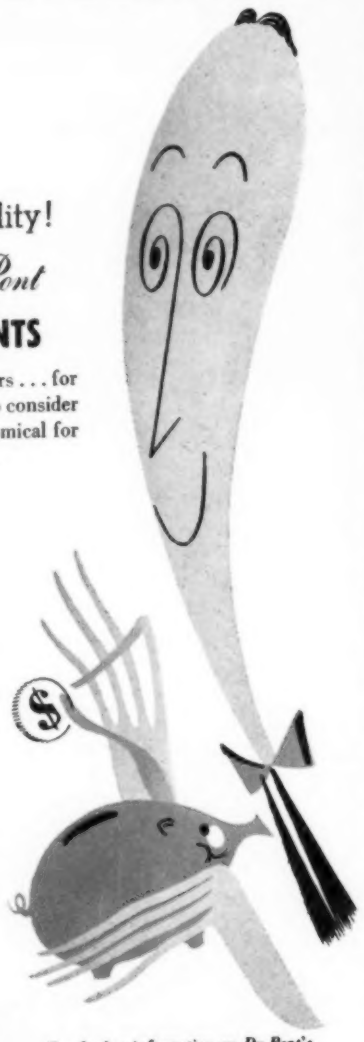
BERGAMOT SYNTHETIC 52-S—$2.60 per trial lb. A low-cost, well-balanced replacement for the natural oil, suitable for all soap and cosmetic use.

AMBRENE S-51 — $8.00 per trial lb. The rich, full note of Ambrene at an economical price.

Other synthetics of special interest:

GERANIUM SYNTHETIC 51	$ 9.50 per trial lb.
YLANG SYNTHETIC 51	9.10 " " "
YLANG EXTENDER 51	5.40 " " "
BENZOIN SIAM RESINOID IMIT.	1.00 " " "
CINNAMON SYNTHETIC 51	17.50 " " "

All prices subject to change without notice.



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For further information on Du Pont's line of fine synthetic oils, or help with any perfume problem, call or write E. I. du Pont de Nemours & Co. (Inc.), Organic Chemicals Dept., Aromatics Section, Wilmington 98, Delaware. Branch Offices: Atlanta, Boston, Charlotte, Chicago, New York, Philadelphia, Providence, San Francisco.

N. P. A. Post for Bruyn

George J. Bruyn, manager of Niagara sales office of Hooker Electrochemical Co., Niagara Falls, N. Y.,

GEORGE J. BRUYN

has recently been appointed chief of the alkalies section, inorganic and agricultural chemicals branch of the chemical division, National Production Authority. The appointment is temporary on a W. O. C. basis, and Mr. Bruyn will be in Washington until April 1, 1953. He has been granted a leave of absence by Hooker for the tenure of his appointment. During World War II he worked closely with the War Production Board on allocation of Hooker chemicals required for military purposes.

BIMS Golf Outing

BIMS of New York will hold its fourth and final golf tournament of the season September 30 at Pelham (N. Y.) Country Club. It is the Martin F. Schultes Memorial Tournament, and will be for BIMS only.

Ungerer Fetes Mrs. Leiste

Mrs. Hazel Frazer Leiste, long-time employee, was the honor guest at a recent luncheon given by the twenty-five year club of Ungerer & Co., New York. K. G. Voorhees, president, on behalf of the company presented Mrs. Leiste with an engraved gold watch in recognition of her twenty-five years of service, eighteen of which have been spent as his secretary. At the same time Mr. Voorhees announced that a bronze plaque, bearing the likeness of W. P. Ungerer, founder and first president of the company, on which will be inscribed the names of all members, past and present, of the twenty-five year club, is being prepared. Among those present, in addition to Mr. Vorhees and Mrs. Leiste, were the officers of the company and the members of the club. Fred H. Ungerer, chairman, was unable to attend because of illness.

Hercules Names Four

New assignments for four cellulose products department district sales managers have been announced recently by Hercules Powder Co., Wilmington, Del. The new appointments are: James R. Yeager, manager lacquer promotion, Wilmington; Philip F. Robb, district sales manager, New York City; Henry P. Grace, district sales manager, Detroit; and Howard S. Lawton, district sales manager, Cincinnati.

Represents "Soilax"

Hotaling - Stefanik, Buffalo, N. Y., food brokers, were recently appointed by Economics Laboratory, Inc., St. Paul, as exclusive representative on "Soilax" for the Buffalo area.

Emulsol Issues Bulletin

Technical bulletin No. 32, describing "Emcol 61" has recently been issued by Emulsol Corp., Chicago. The new product is a fatty amide foam stabilizer and hair conditioning agent for use in shampoos and other detergent products.

Schmidt Leaves Wrisley

Resignation of H. R. Schmidt as industrial sales manager of Allen B. Wrisley Co., Chicago, was announced recently. Mr. Schmidt formerly was associated with Werk Industrial Soap Co., Cincinnati, and joined Wrisley in 1951 when it purchased Werk. His job as industrial sales manager is temporarily being handled by Allen B. Wrisley III.

Sales policies concerning Wrisley's products including "Werkrite" flakes, powder and granules, "Hytexal," "Colortex," new "Risogran" powder, "Redotex" flakes, powder, and granules, "L. T. 60," and "Siltex" will remain unchanged.

Milton Filtrol P. A.

R. S. Milton was recently appointed purchasing agent for Filtrol Corp., Los Angeles. In his new posi-

R. S. MILTON

tion he is responsible for purchasing practices and procedures for all Filtrol plants. Mr. Milton has been with Filtrol since 1937 when he joined the firm to be in charge of purchasing for California operations and sales department coordination. Since his graduation from Harvard he has been with American Potash & Chemical Corp., International Filter Co., and DeLaval Steam Turbine Co. doing sales and purchasing work.

Join Cleanliness Bureau

The Association of American Soap & Glycerine Producers recently added Gertrude Paul and Rachael Bail Baumel to the staff of its cleanliness bureau, which is engaged in a program of consumer information concerning soap and water cleanliness. Mrs. Paul's former associations include the *Canadian Home Journal*, *Mayfair Magazine*, and *Drug Merchandising*, all of Toronto. Mrs. Baumel was formerly with *Women's Wear Daily*, New York, and has been a publicist with Ann R. Silver Associates and Raymond Spector, Inc., New York

Paper Price Cut

Rhinelander Paper Co., Rhinelander, Wis., recently announced a $0.50 per cwt, price reduction on all standard grades of both glassine and greaseproof paper. New price lists reflecting the lower prices are now available from Rhinelander.

FOR BETTER SOAPS AND DETERGENTS

AS LITTLE AS

1%

CMC-CT (BASED ON TOTAL FORMULATION)

GIVES LAUNDRY

100%

IN WHITENESS RETENTION

Get the most out of your synthetic detergents and built high- and low-titer soaps by adding a little CMC-CT. White goods will come through repeated launderings with their full whiteness, and dyed color goods with their full brightness, because of CMC-CT's proved ability to keep soil, once removed from the cloth, from being redeposited before final rinsing. As little as 1% CMC-CT, based on total formulation, means cleaner, whiter laundry—even after repeated washings.

HERCULES®

CMC-CT

HERCULES POWDER COMPANY Cellulose Products Department, 961 Market St., Wilmington 99, Del.

CM52-19

French Soap Makers Visit U. S.

A NINE-MAN team of representatives of the soap and detergent industry of France arrived in the United States Aug. 18 for a month's visit to study production and marketing methods under the sponsorship of the Mutual Security Agency, Washington, D. C. A similar tour is being made by an eleven man group from the French fats and oils industry.

The soaps and detergents section of the French fats and oils industry is studying ways and means of improving French soap products, as well as synthetic detergents, which are relatively new in France. Glycerine production methods in the U. S. are also being investigated by the French team. Visits to manufacturing plants and research laboratories and conferences are scheduled for the New York-New Jersey areas. Philadelphia, Wilmington, Del., Chicago, St. Louis and Washington, D. C.

Lucien A. J. Mayolle, president and general manager of Savonnerie d'Alesia & Perfumerie Thore Reunies, and leader of the French Soaps and Detergents Productivity Team, is greeted by Leonard J. Oppenheimer, vice-president and secretary of West Disinfecting Co., Long Island City, N. Y., when the group visited the West plant Aug. 19. At right, is L. H. Cornell, project manager of Mutual Security Agency, sponsor of the visit. Below: View of the conference of French soapmakers and representatives of Lever Brothers Co., at Lever House, New York, Aug. 21.

The soaps and detergents productivity team is being accompanied by L. H. Cornell, MSA project manager. The team leader is Lucien A. J. Mayolle president and general manager, Savonnerie d'Alesia & Perfumerie Thore Reunies. Other members of the team include: Paul Michel Cusinberche, co-manager and administrative director, Stearinnerie & Savonnerie de Clinchy; Charles Albert Fine, soap department manager, Regis & Co.; George Galanier Warrain, trade manager, Etc. Emile Galanier; Lucine Pierre Martin, foreman, Ets. Fournier Ferrier; Jean P. V. Merlet, assistant general secretary, Federation Nationale de l'Industrie des Corps Gras; Jacques C. Ricard, chemical engineer, Huilerie Antonin Roue & Savonnerie J. B. Paul; Marie L. Roussille, plant manager, Stearinnerie Savonnerie Roussille, and Henrie M. Sourice, grain purchaser, Comptoir Auxiliaire d'Huilerie.

During its stay in New York, from Aug. 18 to Sept. 1, the soaps and detergents team visited the plant and laboratories of West Disinfecting Co., Long Island City, N. Y., Aug. 19. Leonard J. Oppenheimer, vice-president and secretary of West, acted as host.

On Aug. 20, the team met with representatives of the two trade associations in the soap and detergent field. Roy W. Peet secretary of the Association of American Soap & Glycerine Producers, Inc., and H. W. Hamilton, secretary of the Chemical Specialties Manufacturers Association, addressed the team, as did Ira P. MacNair, president of Mac Nair-Dorland Co., publisher of *Soap & Sanitary Chemicals*.

In addition to a meeting (Aug. 21) with Dr. Otto Pragan, research director of the International Union of Chemical Workers, A.F.L., the team toured New York headquarters of Lever Brothers Co., New York, Aug. 21, where it had lunch.

Other points on the itinerary were visits to the following plants or laboratories: Interchemical Corp., New York, Aug. 22; Lehn & Fink Products Corp., Bloomfield, N. J., Aug. 25; Colgate-Palmolive-Peet Co., Jersey City,

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LAUNDRY SOAPS

WHETHER chips or flakes,
powders, beads or bars,
your laundry soaps can be made
intrinsically more attractive
by the judicious use
of a carefully selected fragrance.
None will deny—
much less the users of your product—
that there's a psychological prod,
when shopping for soaps,
to favor that brand
whose clean, gentle fragrance
lends a cheerier note
to the tedium of "wash day blues".
A sure way, then, to UP your sales
is to acquire a perfume
that will elevate your product
in the user's favor.
Given opportunity to do so,
we can helpfully assist you
in developing just such
a compelling and distinctive fragrance.

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BRANCH OFFICES *and* *STOCKS: *Atlanta, Georgia, Boston, Massachusetts, *Chicago, Illinois, Cincinnati, Ohio, Cleveland, Ohio, *Los Angeles, California, Philadelphia, Pennsylvania, San Francisco, California, *St. Louis, Missouri, *Toronto, Canada and *Mexico, D. F. FACTORY: *Clifton, N. J.*

Lucien A. J. Mayolle (second from right), leader of the French Soaps and Detergents Productivity Team visiting U. S., stresses a point between meeting sessions at the new Lever House in New York City. In the group are Paul Ferracci, Jacques C. Ricard, and Jean P. V. Merlet, right.

N. J., Aug. 27; Chemaco Co., Berkeley Heights, N. J., Aug. 28; Duveen Soap Co., Long Island City, Aug. 29; Pennsylvania Salt Manufacturing Co. laboratory, Whitemarsh, Pa., Sept. 2; Atlas Powder Co., Wilmington, Del., Sept. 4; Armour & Co., Chicago, Sept. 8; Lever Brothers Co., Hammond, Ind., Sept. 10; Monsanto Chemical Co., St. Louis, Sept. 12.

Conferences scheduled during the trip included one on Aug. 28, with Leslie Phillips, regional director, United Gas, Coke and Chemical Workers, CIO, at Newark, N. J., and another with Dr. Otto Pragan in St. Louis.

Prior to its departure from New York on Sept. 21, the team is spending three days in Washington, D. C., where it is conferring with the American Council on Education; the U. S. Department of Labor, Office of International Labor Affairs; the National Planning Association, Mutual Security Agency officials; the Alien Division of the Office of Collector of Internal Revenue.

SAACI Annual Show

The Salesmen's Association of the American Chemical Industry will hold its 1952 show on October 21, the night of the association's business meeting dinner, it was announced recently. All members of the association are eligible to participate in the show as actors, writers, performers, musicians, singers, etc.

Price Rule for New Soaps

The pricing of new cosmetics including soaps is covered by general overriding regulation 3, amendment 5, issued recently by Office of Price Stabilization. Soaps are not cosmetics, but for the purpose of this regulation the term cosmetic includes shaving soaps and liquid shampoos. No price regulation issued by OPS shall apply to new cosmetics which a manufacturer did not sell or offer for sale before January 26, 1951, until the gross sales for that cosmetic exceed $25,000. This exemption applies only to those manufacturers whose total gross sales for all commodities during the last fiscal year were less than $250,000, or who has not completed his first fiscal year in business. The exemption ceases to apply when the total gross sales for all products for any fiscal year or part thereof reach $250,000. Upon termination of the exemption the manufacturer must establish a ceiling price for the formerly exempt cosmetic, make such reports and keep such records as are required by the applicable regulation.

Fat Technology Meeting

The German Society for Fat Technology (Deutsch Gesellschaft fuer Fettwissenschaft) will hold its annual meeting in Duesseldorf, October 5-9, it was announced recently. The committee making local preparations for the meeting is headed by Dr. W. Manchot, Henkel & Cie., large soap firm of Duesseldorf. Over fifty papers will be presented. These include: determination of the foaming power of detergents and evaluation of washed materials; behavior of various high-molecular phosphates in the washing process; cleaning problems in the dairy industry; and raw materials problems in the soap industry. Visits to ten different plants have been arranged, among them are Henkel & Cie, Duesseldorf; Farbenfabriken Bayer, Leverkusen; and Duisburger Kupferhuette, Duisburg.

Consulting Chemists Meet

An open door dinner meeting will be held by Association of Consulting Chemists and Chemical Engineers, New York, October 28 in the Baroque Room, Hotel Belmont Plaza, New York. Feature of the meeting will be a symposium on the chemistry of household chemicals and cosmetics. Speakers will include Robert E. Horsey, Sindar Corp., on cosmetics, and Maurice S. Sage, Sage Laboratories, Inc., on household chemicals. A charge of $7.00 per person is being made for the dinner meeting.

F. K. Alling Retires

F. K. Alling, manager of the statistical department of the Association of American Soap & Glycerine Producers, Inc., New York, retired recently after having been with the organization since 1937. Mr. Alling, who has been in poor health recently, makes his home at 26 Esplanade, Mount Vernon, N. Y., and would be pleased to hear from his friends in the industry.

Statistical work in the A.A.S.-G.P. is now being handled by Miss Anne M. Fallon, assistant manager of the statistical department, and by Victor Rappaport, who recently came to the association from the Bureau of Labor Statistics.

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- MAKING SOAP POWDERS
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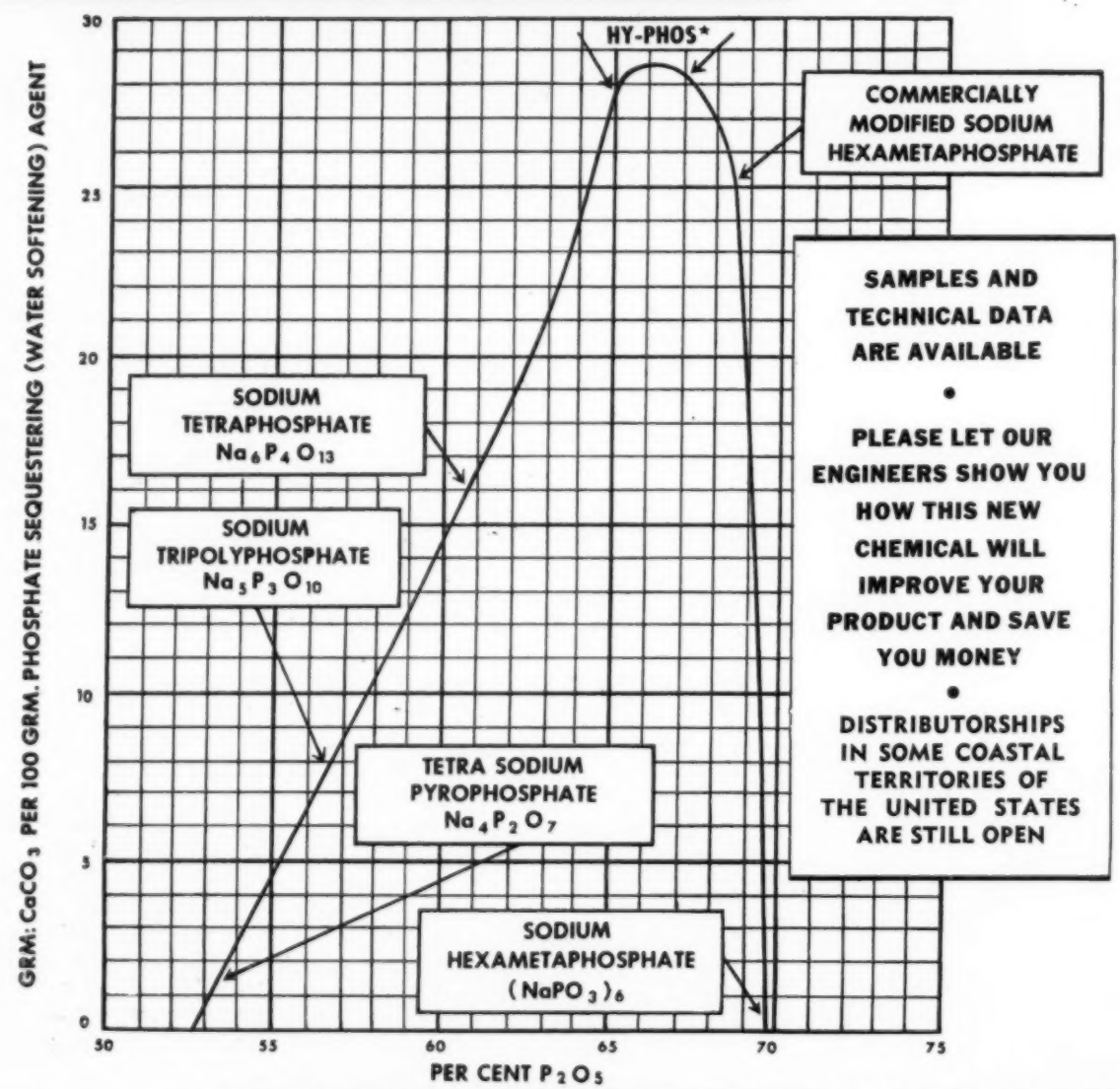

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U. S. PATENT NO. 2,574,047 GRANTED NOV. 6, 1951

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* Trade-Mark

Hooker Advances Three

Hooker Electrochemical Co., Niagara Falls, N. Y., recently announced the appointment of Horace W. Hooker, Jr. as assistant to the general sales manager, Peter N. Maclaren as purchasing agent and Robert F. Schultz as assistant technical superintendent.

Mr. Hooker has been associated with the company since 1934, when he was employed in the development and research department. From 1940 to 1941 he was assistant to the sales manager, and in this capacity was in charge of sales promotion and advertising. In 1941 he became assistant purchasing agent and in 1947 was made purchasing agent. Mr. Hooker is a 1928 graduate of Cornell University.

Mr. Maclaren has been with the company since 1936 when he was employed as an operator in the caustic department. He has been in the purchasing department since 1938 and became assistant purchasing agent in 1947.

Mr. Schultz joined Hooker in 1941 following graduate work in chemical engineering at the University of North Dakota. He served as a chemical engineer in the process study group until 1945, when he became technical foreman of the fine chemicals department. From 1949 until the present time he has served as technical supervisor of the process study group.

Boston BIMS Outing

The BIMS of Boston are winding up the 1952 season with a golf tournament, September 16, at the Nashua (N. H.) Country Club, according to a recent announcement by Hart Harris, Jr., of S. B. Penick & Co., chairman. The last outing was held August 14 at the Dedham, Westwood, Mass., Country and Polo Club. On this occasion golf prizes were won by Henry C. Milton, American Cyanamid Co.; John O'Meara, Ivers-Lee Co.; C. E. Ingham, Ingham Royalty Luggage; E. C. Richardson, U. S. Industrial Chemicals, Inc.; and Emery L. Wright.

Door prizes went to Barclay E. Mackinnon, N. Y. Quinine & Chemical Works; Warren Kell, Ungerer & Co.; and Edwin W. Martin, Mallinckrodt Chemical Works.

Resigns from Gillam

The resignation of Mrs. Scott Marshall from Gillam Soap Works, Fort Worth, after nearly twelve years in various administration capacities was announced recently by E. O. Gillam, president. At the same time it was announced that Mrs. Fay Schmick, formerly of Los Angeles, is replacing Mrs. Marshall.

S. Rostkowski Dies

Stanley Rostkowski, 83, one-time soap maker, died August 12 at Milwaukee hospital of a heart ailment. A native of Warsaw, Poland, Mr. Rostkowski, a trained pharmacist, came to the U. S. in 1905, and settled in Milwaukee to engage in soap manufacturing. The last ten years before his retirement in 1939 he worked for the city water department.

Soap Industry in Pakistan

Approximately 29,000,000 pounds of soap a year are being produced in East Pakistan according to a recent report from Dacca. The industry consists of about 114 soap factories, the dispatch says.

Mueser Visits Europe

E. Edward Mueser, president of J. M. Lehmann Co., Lyndhurst, N. J., manufacturers of roll mills and other finishing machines, sailed from New York, Sept. 5 aboard the S. S. *United States* for a month's business trip in Europe. He plans to attend the machine tool industries show in Brussels, Belgium, following which he will visit chemical processing plants in West Germany, Switzerland and England. Purpose of the visit is to study technical advances in machine manufacturing, particularly continuous flow processing techniques and automatic equipment for that purpose. Mr. Mueser will fly back to the United States Oct. 1.

Par Busters Golf Prizes

Four permanent trophies, in addition to the usual prizes, are being distributed this year, one for each of four classes of golfers, at the five monthly golf outings of Par Busters, consisting of members of the Chicago Perfumery, Soap and Extract Association and the Chicago Drug and Chemical Association, it was announced recently. The final outing of the season was held on Thursday, September 11 at the Calumet Country Club, Homewood, Ill. Previous outings were on May 20 at the River Forest Golf Club, Elmhurst, Ill.; June 19 at the Rolling Green Country Club, Arlington Heights, Ill.; July 16 the big Tri-City golf and swing party at Olympia Fields, Ill., where Par Busters were hosts to the Chemical and Allied Industries Association of Michigan and the Associated Drug and Chemical Industries of Missouri; and Aug. 15 at Elmhurst C. C.

Shown in the picture from left to right are: Stanley N. Lind, president and George H. Stanton, golf chairman for the Chicago Drug and Chemical Association; Robert de Lazar, golf chairman, and Charles E. Arch, president of the Chicago Perfumery, Soap and Extract Association.

The trophies are the Scotty Fessenden Memorial trophy, the Michael Francis Charley trophy, the Harry Holland trophy, and the Industrial Laboratories Publishing Co. trophy.

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USE this handy reference to save time in selecting high quality chemicals.

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viscose rayon
cleaning compounds
reclaiming rubber
mercerizing cotton
reclaiming tin
food processing
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and many, many others

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When you order chemicals from Hooker, you know that you are dealing with a reputable, dependable supplier. You can count on prompt deliveries, timed to fit your production schedule.

GROWING...TO SERVE YOU BETTER

New Chicago Office—To better serve Midwestern chemical users, Hooker has recently opened an office at 1 North LaSalle Street in the heart of Chicago's Loop. Midwestern users need only call Chicago, CEntral 6-1311, to receive fast shipment from the main plant at Niagara Falls. Hooker technical personnel will also be stationed at the Chicago office to assist you with your chemical requirements.

New plant at Montague, Michigan—In addition to the existing plants at Niagara Falls and Tacoma, Hooker is building a plant at Montague, Michigan which will increase chlorine and caustic soda production by 100,000 tons per year. Construction will be completed in 1953. This plant will further speed deliveries to Midwestern users.

Research and development—Over 100 regular products, and many more research products, have been made available through Hooker's specialized experience in chlorination, hydrogenation, esterification, sulfhydration, hydrochlorination, and fluorination. Complete laboratory and pilot plant facilities are ready to serve you.

Products available now—Chlorine, muriatic acid, sodium sulfide, chlorobenzenes, and many other products are available for immediate shipment. For full information, write on your letterhead to *Hooker Electrochemical Company*, Buffalo Avenue and Union St., Niagara Falls, N. Y.

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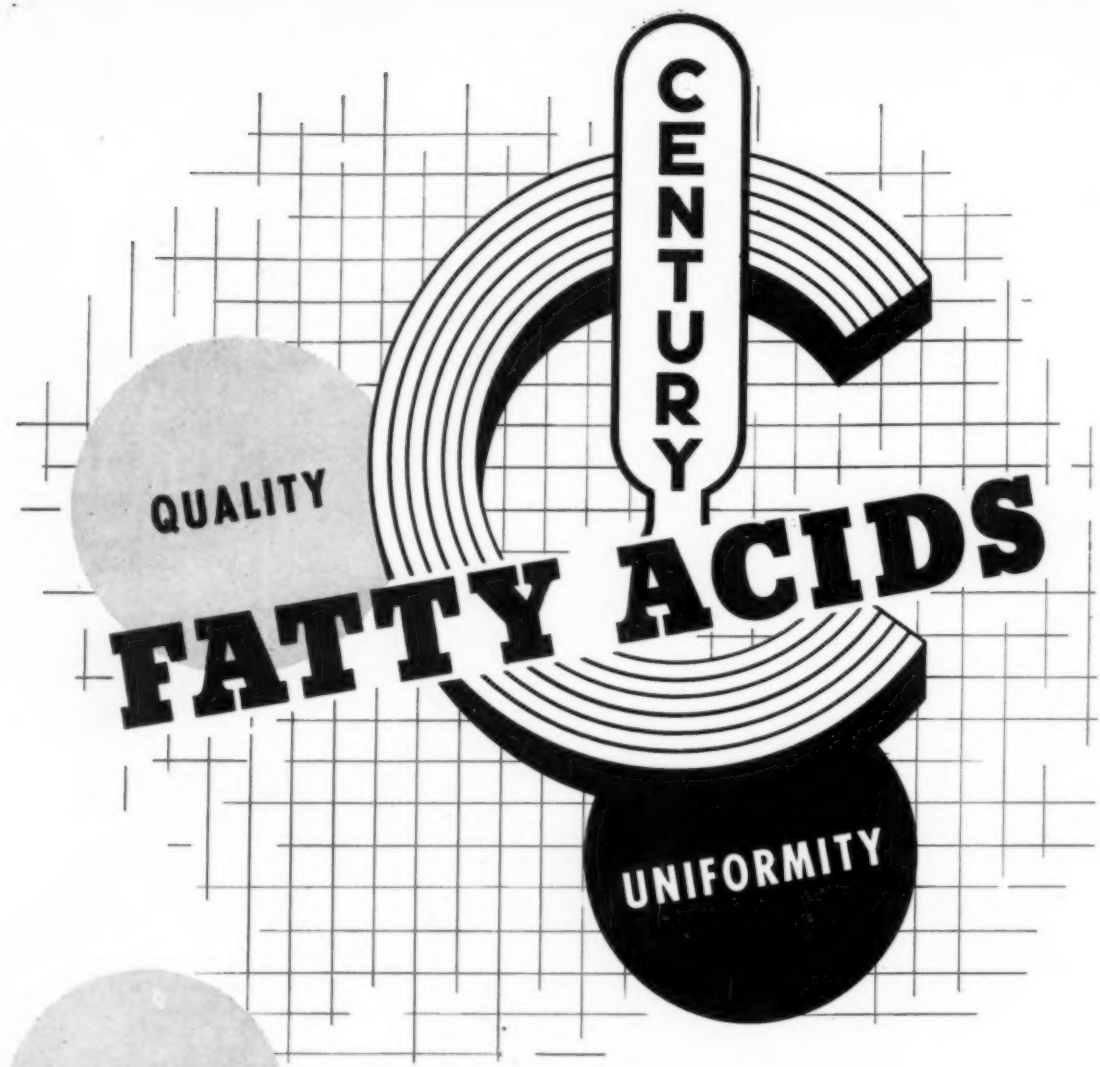

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Distilled Corn Oil Fatty Acid

A relatively low titer material particularly interesting in the manufacture of clear liquid and paste soaps.

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Bids and AWARDS

FSS Awards on Soap

In a recent opening for miscellaneous supplies by Federal Supply Service, Washington 25, D. C., the award on 8,496 pounds of soap went to Larkin Soap Co., Teaneck, N. J., with a bid of 8 cents; on 2,000 pounds with 7.97 cents and 24,000 pounds with 6.83 cents to E. F. Drew & Co., New York; on 10,128 pounds with 6 cents, and 118,750 pounds with 3.75 cents to Stevens Soap Co., Brooklyn, N. Y.; on 19,600 pounds with 4.1 cents to National Milling and Chemical Co., Philadelphia.

Low Bids on Soap

The following were low bidders on soap in a recent opening for miscellaneous supplies by the Federal Supply Agency, Washington 25, D. C.: Murro Chemical Co., New York, on item 2, 21,000 pounds of soap powder, bid 5.5 cents; Sterling Supply Corp., Philadelphia, on item 3, 30,000 pounds of soap powder, bid 7.42 cents; Chicago Sanitary Products Co., Chicago, on item 4, 14,175 pounds of toilet soap, bid 16 cents; and Imperial Products Co., Philadelphia, on item 1, 1,800 pounds of soap powder, bid 3.65 cents.

Metal Polish Awards

In a recent opening for miscellaneous supplies by U. S. Marine Corps, Washington 25, D. C., the following firms received awards on 12,780 pints and 1,238 pounds of metal polish: R. M. Hollingshead Corp., Camden, N. J., item 1a, 12.1 cents, item 1b, 13.6 cents; Oil Specialties & Refining Co., Brooklyn, item 2, 16.2 cents; and Unity Sanitary Supply Co., New York, item 3a and b, 35 cents each.

Scouring Powder Awards

The Marine Corps, Washington 25, D. C., in a recent opening for miscellaneous supplies made the following awards on 71,688 pounds of scouring powder: Murro Chemical Co., New York, item 1, 7 cents, item 3, 5.2 cents, item 5, 6.5 cents, item 2, 7.25 cents, Economics Laboratory, St. Paul, Minn.; item 5, 10.65 cents, Tech Soap Manufacturing Co., Chicago.

Low Bid on Mothicide

Low bidder on 10,000 gallons of liquid mothicide in a recent opening for miscellaneous supplies by the Army Quartermaster, Philadelphia, was Superior Chemical Products, Philadelphia, with a bid of $1.50.

FSS Wax Awards

In a recent opening for miscellaneous supplies by the Federal Supply Service, Washington 25, D. C., Kem Products Corp., Brooklyn, N. Y., received the award on liquid floor wax with bids of 54 cents per gallon on 3,000 five-gallon cans; 200 55-gallon cans; with 14 cents per pound on 8,832 pounds of paste wax, and 11 cents per pound on 7,800 pounds.

Low Bids on Grit Soap

A recent opening for miscellaneous supplies by New York Navy Purchasing Office included item 1, 124,000 pounds of grit soap, type A, and item 2, 72,000 pounds of grit soap, type B, for a, Bayonne; b, Mechanicsburg; c, Norfolk; and d, Clearfield. Among low bidders were Day & Frick Co., Philadelphia, with 1a, 5.76 cents; 1b, 5.58 cents; 2b, 5.12 cents, 2c, 5.44 cents; M. Schneider & Sons, Brooklyn, N. Y., with 1a, 5.7 cents; 2c, 5.43 cents; Oxford Soap Co., with 1a, 5.6758 cents; 1b, 5.8342 cents; and Newell Gutradt Co., San Francisco, 1d, 6.36 cents; 2d, 6.4 cents.

FSS Aerosol Bid

In a recent opening for miscellaneous supplies by Federal Supply Service, New York, the low bid of 47.7 cents on 4,404 aerosol bombs was submitted by Airosol Co., Neodesha, Kans.

Army Cleaner Bid

A recent opening for miscellaneous supplies by Army Ordnance Department, Frankford, Pa., included 340,000 pounds of alkaline cleaner. Low bid of 7.32 cents was submitted by Pennsylvania Salt Manufacturing Co., Philadelphia.

Navy Soap Bid

In a recent opening for miscellaneous supplies by Navy Purchasing Office, New York, National Chemical Laboratories, Philadelphia, was lowest bidder on 2,400 gallons of soap with 41.9 cents.

QM Soap Award

In a recent opening for miscellaneous supplies by Army Quartermaster Corps, New York, the award on 9,090,000 four-ounce cakes of toilet soap went to Manhattan Coap Co., New York, with a bid of $429,-745.36.

Low Scouring Powder Bid

Lowest bidder on 13,632 pounds of scouring powder in a recent opening for miscellaneous supplies by Federal Supply Service, Dallas, was Federal Chemical Co., Chicago, with a bid of 8.2 cents.

Trisodium Phosphate Bid

Octagon Process Co., Staten Island, N. Y., submitted the low bid of 4.03 cents on 30,000 pounds of trisodium phosphate in a recent opening for miscellaneous supplies by Federal Supply Service, New York.

Soap Award to Swift

Swift & Co., Chicago, received the award on laundry soap in a recent opening for miscellaneous supplies by the Marine Corps, Washington, D. C., with a bid of 9.73 cents on item 1, and 8.71 cents on item 2.

Tom Moore in New Post

Appointment of Tom R. Moore as assistant to the vice-president and general sales manager of General Dyestuff Corp., New York, was announced recently. Mr. Moore formerly was sales service manager for the Antara Chemicals Division of General Dyestuff. Mr. Moore's previous associations include Sherwin-Williams Co., Cleveland, and National Carbon Co., Cleveland. He joined Antara Division as sales engineer in 1946, and was appointed sales service manager in 1950.

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AN aromatic compound of the lavender type; exceeding the oil itself in odor strength, stability and general effectiveness. Equally well suited to be used alone or as a fortifying agent for lavender oil in the proportion of 1 part oil to 3 parts Lavandalol.

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THIS excellent geranium has been synthesized on the basis of extensive tests carried out with the principal components of geranium oil. Use in a 3 to 1 combination with the natural oil or alone. Judge it in the finished product.

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NEW Trade Marks

THE following trade marks were published in recent issues of the *Official Gazette* of the U. S. Patent Office in compliance with section 12(a) of the Trade Mark Act of 1946. Notice of opposition under section 13 may be filed within 30 days of publication in the *Gazette*. See rules 20.1 to 20.5. As provided by section 31 of the Act, a fee of $25 must accompany notice of opposition.

Bowlbryte—This for toilet-bowl cleanser in powder form. Filed April 23, 1951 by West Disinfecting Co., Long Island City, N. Y. Claims use since April 1930.

Cashmere Bouquet—This for toilet soap. Filed April 19, 1951 by Colgate-Palmolive-Peet Co., Jersey City. Claims use since February 26, 1951, and since 1869 as to the words "Cashmere Bouquet".

Alcolac—This for detergents containing fatty alcohol sulfates for general use in the industrial arts. Filed May 4, 1950 by American Alcolac Corp., New York. Claims use since May 16, 1949.

Coldkleen—This for liquid solvents employed in cold degreasing and in the cleaning of electric motors. Filed January 20, 1950 by Currier Co., Oakland, Calif. Claims use since June 20, 1949.

Rillor—This for washing and cleaning compound. Filed November 5, 1949 by Wyandotte Chemicals Corp., Wyandotte, Mich. Claims use since June 21, 1949.

True-Sheen—This for dry-cleaning soaps and detergents. Filed September 29, 1949 by Tru-Sheen Corp., Richmond, Calif. Claims use since October 20, 1936.

Dunaway—This for spot removing compounds for removing spots from fabrics. Filed October 27, 1948 by H. D. Dunaway Co., Atlanta, Ga. Claims use since 1944.

Red Crown—This for bowling alley cleaner in liquid form. Filed June 10, 1948 by Brunswick-Balke-Collender Co., Chicago. Claims use since January 27, 1942.

Lustur Seal—This for automobile polish. Filed November 2, 1948 by Lustur-Seal Corp., Jackson, Mich. Claims use since May 1947.

Feather Touch—This for automobile and furniture wax. Filed February 8, 1951 by Bostwick Laboratories, Inc., Bridgeport, Conn. Claims use since November 21, 1949.

Fly-Master—This for insecticides in powder or paste form. Filed January 18, 1950 by Remington Products Corp., Elizabeth, N. J. Claims use since December 15, 1949.

Pamisc—This for insecticides. Filed June 30, 1950 by Pennsylvania Salt Manufacturing Co., Philadelphia. Claims use since September 8, 1949.

O-B—This for perfumed deodorant blocks for household and industrial use, moth proofing liquid, insecticide and pine oil disinfectant. Filed December 7, 1951 by Central A-B Products Co., Buffalo, N. Y. Claims use since October 1931.

Antibac—This for germicidal compound for use in industrial and domestic applications. Filed January 25, 1952 by Wyandotte Chemicals Corp., Wyandotte, Mich. Claims use since June 28, 1951.

Co-Vel—This for ammoniated dental cream. Filed September 5, 1951 by Coverley Laboratories, Inc., New York. Claims use since November 1950.

Compass—This for sudsing cleaner. Filed May 29, 1951 by Procter & Gamble Co., Cincinnati. Claims use since April 12, 1951.

Bridgeport Brass Co.—This for insecticides. Filed May 6, 1946 by Bridgeport Brass Co., Bridgeport, Conn. Claims use since September 1944.

Superior—This for floor, furniture and general household polish. Filed Nov. 17, 1947 by Superior Products Co., Dallas, Tex. Claims use since Feb. 1, 1935.

Valor—This for insecticide and room deodorant. Filed Apr. 20, 1949 by Bostwick Laboratories, Inc., Bridgeport, Conn. Claims use since Aug. 15, 1948.

Magic Wand—This for air deodorant. Filed Mar. 17, 1950 by Interstate Sanitation Corp., Cincinnati. Claims use since February 28, 1948.

Globe Laboratories—This for disinfectants and insecticides. Filed May 15, 1950 by Globe Laboratories, Fort Worth, Tex. Claims use since Dec. 20, 1920.

Kennel Comfort—This for animal disinfectants. Filed July 24, 1950 by Kennel Comfort, San Francisco. Claims use since Jan. 29, 1949.

Vinelab—This for rodenticides. Filed Mar. 12, 1952 by Vineland Laboratories, Inc., Landis Township, Cumberland County, N. J. Claims use since Nov. 2, 1951.

Activon—This for spot removal additive. Filed Nov. 25, 1949 by Patek & Co., San Francisco. Claims use since June 21, 1949.

Casol—This for mineral composition for absorbing liquids such as water and oil from floors and like surfaces. Filed Nov. 25, 1949 by Wyandotte Chemicals Corp., Wyandotte, Mich. Claims use since Mar. 23, 1948.

Nobar—This for automobile body washing composition fortified with emulsified carnauba wax. Filed Nov. 10, 1950 by Denfis Chemical Laboratories, Inc., Brooklyn, N. Y. Claims use since Aug. 21, 1950.

Baby Stuart—This for toilet soap. Filed Feb. 1, 1951 by Consolidated Grocers Corp., Chicago. Claims use since Jan. 31, 1929.

Kleenodyne—This for germicidal detergent, cleaner, and disinfectant for washing and sanitizing dishes and Army mess kits for restaurant use. Filed Mar. 2, 1951 by West Disinfecting Co., Long Island City, N. Y. Claims use since Dec. 7, 1950.

Weno—This for combination hand cream and all-purpose cleaner. Filed Mar. 3, 1951 by G.B.P. Co., West Springfield, Mass. Claims use since Jan. 2, 1951.

Anabax—This for synthetic detergent in the nature of a sanitizer and deodorant to be used for bottles, dishes, and baby things. Filed Mar. 31, 1951 by Tect, Inc., Englewood, N. J. Claims use since Aug. 12, 1950.

Veratile—This for hand, woodwork, and floor cleaner. Filed May 1, 1951 by Clarence M. Wynn, Azusa, Calif. Claims use since July 24, 1950.

Trophy—This for soaps and detergents in powder and liquid form for household use. Filed June 4, 1951 by N. B. Purdy Products, Inc., Milwaukee. Claims use since May 23, 1951.

B and E—This for cleaning compounds for various surfaces. Filed June 8, 1951 by Benjamin de Wild, Knoxville, Ia. Claims use since Mar. 1, 1951.

Sil—This for grease and dirt remover for hand and body use. Filed July 9, 1951 by Morris M. Brand, Corpus Christi, Tex. Claims use since Feb. 1, 1951.

S-76—This for cleaning solvent. Filed Nov. 27, 1951 by Union Oil Co. of California, Los Angeles. Claims use since Aug. 22, 1951.

Clorwite—This for sodium hypochlorite for use in general cleaning. Filed Dec. 3, 1951 by Violetta Chemical Co., Buffalo, N. Y. Claims use since Nov. 13, 1951.

Du-Glo—This for floor polish. Filed June 27, 1951 by Du-glo Chemical Co., Brooklyn, N. Y. Claims use since June 1950.

Cee C Bee—This for combination cleaning and polishing preparation for fabric and painted surfaces. Filed August 4, 1951 by Cee-Bee Chemical Co., Los Angeles. Claims use since Jan. 8, 1931.

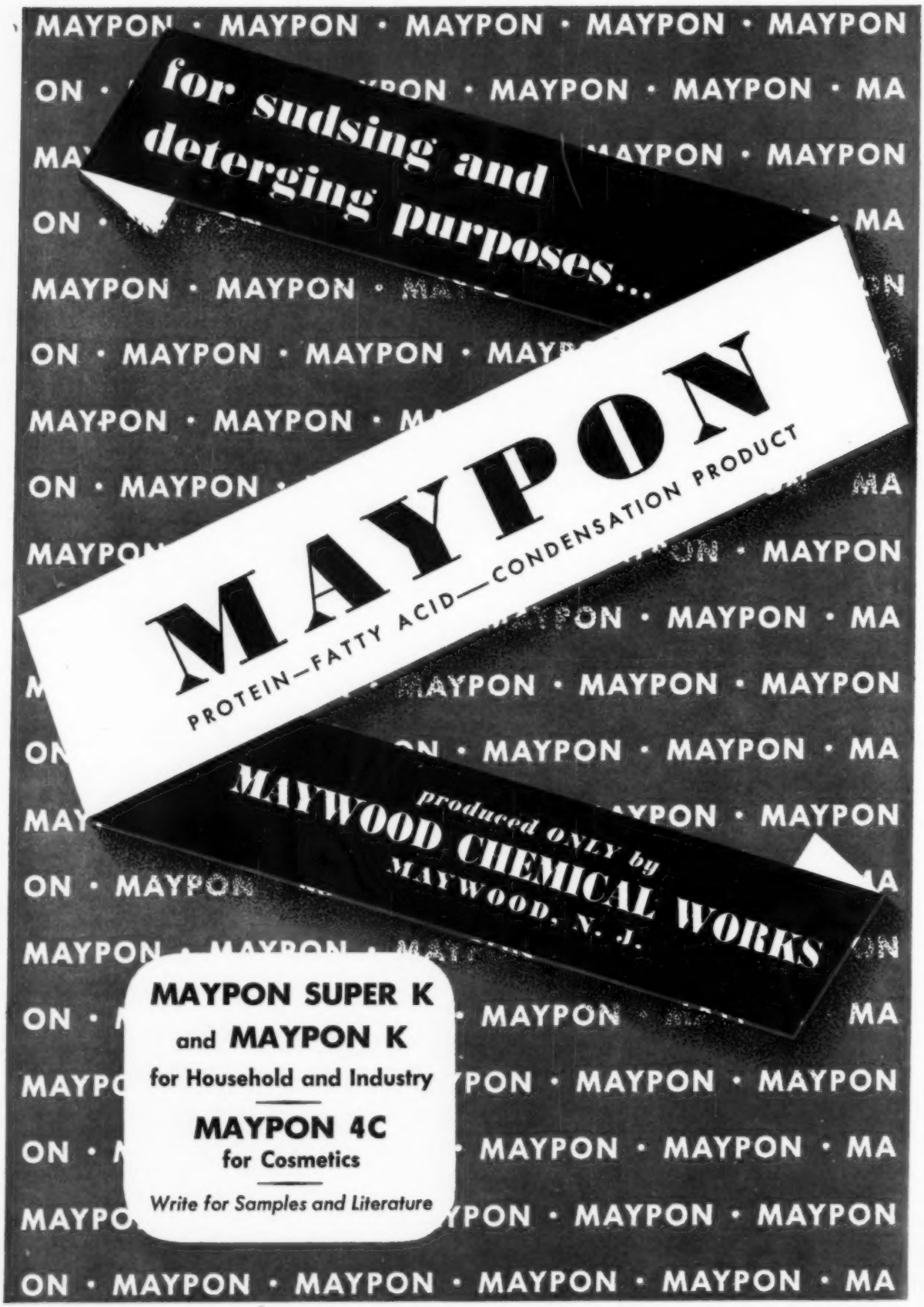
Kay Fries—This for disinfectants and insecticides. Filed Sept. 14, 1949 by Kay-Fries Chemicals, Inc., West Haverstraw, N. Y. Claims use since Jan. 5, 1931.

AiroKill—This for insecticide. Filed Mar. 5, 1951 by Airosol Co., Neodesha, Kans. Claims use since Feb. 12, 1951.

Chlor-Inhibac—This for disinfectant and household and industrial germicidal material in powdered form containing a chlorine or hypochlorite. Filed June 12, 1951 by Chemical Corp., Springfield, Mass. Claims use since Feb. 12, 1951.

VC—This for cleansing compositions for general and specialized uses. Filed Feb. 6, 1951 by Virginia-Carolina Chemical Corp., Richmond, Va. Claims use since Jan. 5, 1948.

Vito Creme—This for shampoo concentrate. Filed Mar. 5, 1951 by Edith L. Worthington, Waterloo, Ia. Claims use since Dec. 11, 1945.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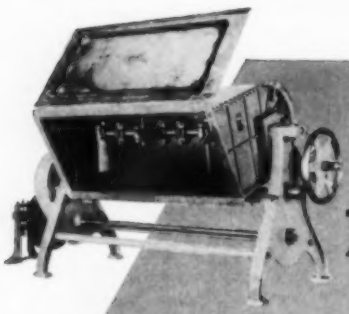

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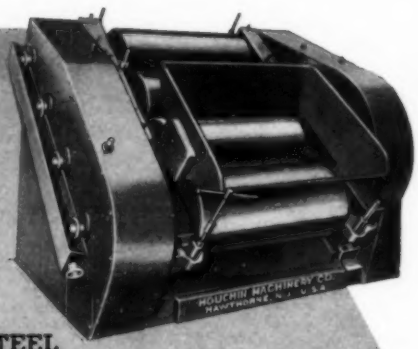

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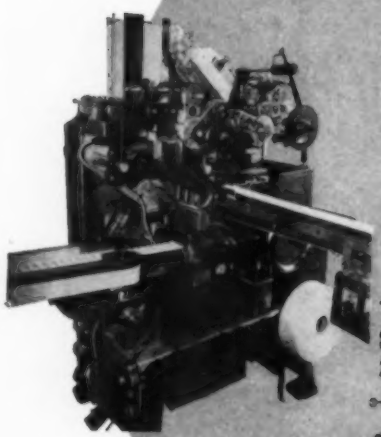

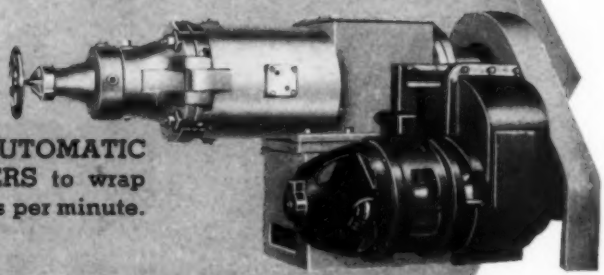

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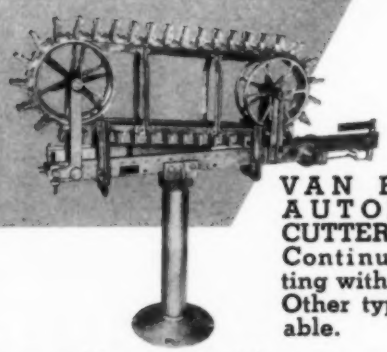

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Glycerine Recovery

By E. T. Webb

PART II

5. Is it important to saponify the fats completely on the first change in order to obtain an efficient recovery of glycerol? Example 8 and 9 offer an answer to this question. It will be seen from these examples that it is not important to complete the saponification on the first change, a 90 percent saponification, as opposed to full saponification, makes very little difference, and 80 percent not a great deal more.

6. Is it interesting, in order to reduce evaporation in the glycerine department, to use the weak spent lyes from the last change in place of water in the preparation of brine, or caustic soda? Example 10 will show that, provided there are no other objections to the employment of the weak lyes in this way, it is profitable to do so. It will, however, be pointed out that to obtain the best results, an indiscriminate use of such liquors must be avoided.

7. The addition of rosin to the soap kettle should be delayed until the third change or even later if possible. Examples 11, 12 and 13 will illustrate to what extent the glycerol efficiency can be influenced by the addition of rosin at different changes.

8. It is on all counts advisable to use a prepared brine solution instead of solid salt, whenever salt has to be added to a kettle. Unnecessary dilutions of the kettle do not take place when using a brine solution, as will be shown in Example 14.

9. Strong changes, i.e., caustic soda changes, are not necessary, and may even be considered undesirable. The effect of a strong change on the ultimate salt content of the finished soap will also be illustrated. Examples 15 and 16.

10. When dealing with fats of varying glycerol content, should the volume of wash liquor used be varied? This question, and others allied to it, will be fully covered in Examples 17 and 18.

Notes on Examples

IN all the examples the following data are used:

1. 100 parts of fat are saponified.
2. The fat contains 8.5 percent glycerol.
3. The anhydrous soap produced by the fat is 104.0.
4. The soap hydrate (66.0 percent fatty acids) in the soap at all points is 144.71.
5. The spent lye contains 11.0 percent salt.
6. The fat contains 95.5 percent fatty acids.

It is assumed in all examples:

1. That in each change the percentage of glycerol contained in the water enmeshed in the soap, and the water contained in the spent lye, is the same.
2. The amount of salt contained in the soap curd is assessed on the basis of Wigner's 66 percent rule.

The form of the examples has been chosen so that anyone interested may be able to extract more detailed information as to performance, recovery change by change, and so on, with the minimum of effort. The examples do not include the fitting operation or the return of nigres. Returned nigres, as will be shown later, have no real effect on the vital recovery figures, since the addition and withdrawal cancel each other out.

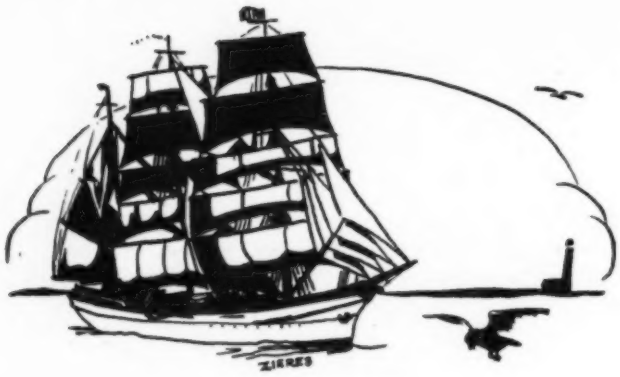
No account has been taken of loss of soap in the spent lyes, or of other impurities usually present in a soap pan — sodium carbonate, etc. It is, however, suggested that *the examples will be found to be strictly comparable.*

The recoveries cited in the examples are not intended to be ideal, there is no reason why recoveries of well over 90.0 percent should not be enjoyed, always provided the necessary handling capacities are available in the soap kettles and the glycerine department. Provided these are available, economic considerations must decide the extent of washing to be used:

Point 1

EXAMPLES 1 and 2 show a difference of 4.83 percent in overall recovery. In both cases the same soap is washed with the same volume of wash liquor. The only difference is that in example 1 the soap curd settled out at each change contains 53.0 percent fatty acids as against 58.0 percent in Example 2. Not only does Example 2 offer a higher glycerol recovery, but it also, as must follow, offers a spent lye with a higher glycerol content. Should additional calculations be made, it will be found that a loss of about one percent in recovery will be sustained for each 1.0 percent drop in the fatty acid content of the curd.

If a boil should contain variations in the richness of the settled curd at different changes, for example some changes settled out to 58.0 percent curd and some to 53.0 percent, or some other variation, the recovery will correspondingly suffer, when compared with a boil in which the curd at all changes contained 58.0 percent. This, of course, applies only when the same volume of wash liquor is used. The recovery of example 1 could be brought into line with that of example 2, provided 28.0 more wash liquor was used, i.e., 208.0 instead of 180.0.



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This however, would cause a further dilution of the spent lyes. The table below gives the wash figures with different curds.

When all the settled curds contain	The overall glycerol recovery will be
58.0% fatty acids	85.77
57.0% fatty acids	85.77
56.0% fatty acids	85.77
55.0% fatty acids	85.77
54.0% fatty acids	85.77
53.0% fatty acids	85.77

From the above it is clear that low fatty acid curds offer a lower recovery efficiency when compared with richer curds when equal volumes of wash liquor are used, or they cause more wash liquor to be used in order to obtain recoveries equal to those offered by richer curds.

The above emphasizes the importance of obtaining a rich settled curd at each change. A soap boiler can never be absolutely certain as to the curd he will obtain, but provided he pays reasonable attention to the graining of the kettle before settling, he can be assured of reasonably constant and rich curds. The secret of good graining is to ensure that the salt concentration of the liquor in the kettle is only slightly above the optimum required to render the soap insoluble. Too much attention cannot be devoted to this point. Under proper conditions a large soft curd offering easy and quick separation will be obtained. Over graining, i.e., using an unnecessarily high salt concentration in the free liquor, produces a hard small curd, which will be reluctant or unable to give up its enmeshed liquor. The graining end point should be approached cautiously, by means of brine additions rather than by adding dry salt, in fact, brine should be used instead of dry salt throughout the boiling operations. If it is found that a kettle has been over grained, water should be added to correct the fault before the kettle is allowed to settle. The fact that this will result in the production of more spent lyes is not important, since corrective measures may be used in subsequent changes. See examples 5 and 6. In addition to correct graining, sufficient settling time must be allowed, and the kettle should be protected against undue loss of heat.

When the wash liquor used is	% glycerol in the spent lyes made will be
180.0	4.05
185.6	3.93
191.2	3.81
196.8	3.70
202.4	3.60
208.0	3.50

Point 2

NEXT in importance, it may be of equal importance, to efficient graining and proper settling, is the point concerning the number of washes or changes that should be used. Is it better to use three, four, five or more in number when using an equal total volume of wash liquor?

Examples 3 and 4 are interesting because they illustrate this point. In example 3 five changes are used as opposed to three in example 1, but in all other respects these two examples are strictly comparable. The same quality of soap is washed with the same volume of wash liquor, and the settled curd at each change in each example contains 53 percent fatty acids. It will be observed that the five change operations offer an increased glycerol recovery of 3.06 percent without any increase in the volume of spent lye produced. Similarly, when example 4 is compared with example 2 it will be found that an increase of 2.93 percent in the glycerol yield is offered, again without involving any increase in the spent lye production, merely because five washes of 36.0 are used instead of three washes of 60.0. In addition to the higher recovery rate offered by the five washes, it should be noted that the glycerol concentration of the spent lyes is also slightly higher.

It may be argued that the five wash system involves extra time and steam in the kettle room. This need not necessarily be so since small washes allow of more soap to be accommodated in the kettle at each operation. In any case, the value of the extra glycerol recovered will more than offset any additional expense incurred on this account. When rosin is used, the advantage offered by the five wash system is decidedly in-

Example 1

	Total	Anhydrous Soap	Salt, etc.	Total Water	Glycerol
1st Change					
50% f.a. soap..	191.00	104.00	3.50	75.00	8.50
Brine	49.19	....	7.00	42.19	...
Contents of kettle after settling					
53% f.a. curd..	180.19	104.00	3.90	67.40	4.89
Spent lye	60.00	....	6.60	49.79	3.61
2nd Change					
53% f.a. curd..	180.19	104.00	3.90	67.40	4.89
Brine	60.00	....	6.60	53.40	...
Contents of kettle after settling					
53% f.a. curd..	180.19	104.00	3.90	69.48	2.81
Spent lye	60.00	....	6.60	51.32	2.08
3rd Change					
53% f.a. curd..	180.19	104.00	3.90	69.48	2.81
Brine	60.00	....	6.60	53.40	...
Contents of kettle after settling					
53% f.a. curd..	180.19	104.00	3.90	70.67	1.62
Spent lye	60.00	....	6.60	52.21	1.19

Summary

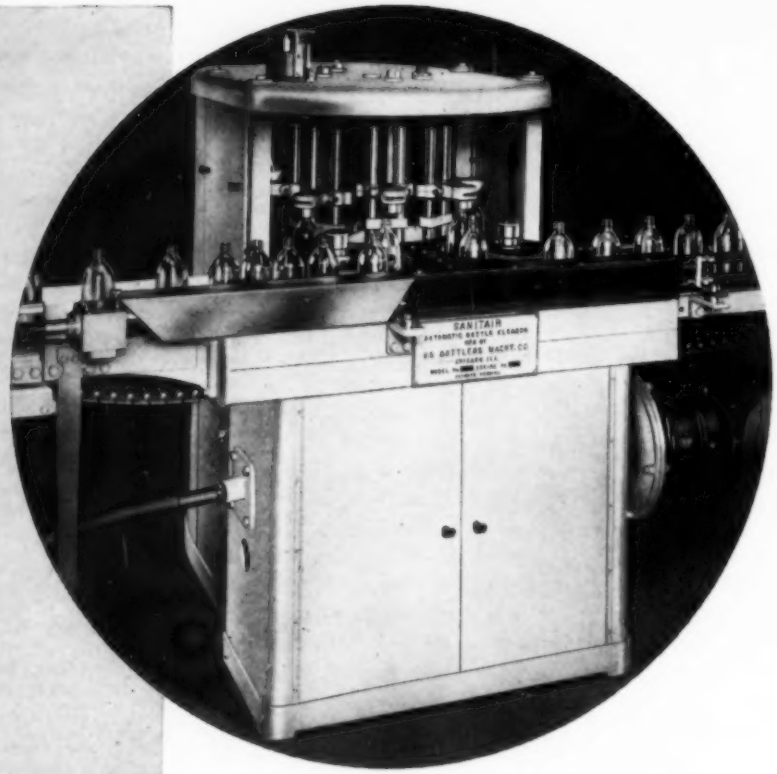
% Glycerol in fat charge	8.50
Spent lye made	180.00
Ratio of fat saponified to lye made	1.0:1.80
% Glycerol in spent lye	3.82
% Glycerol recovered	80.94
% fatty acids in settled curd at each change	53.00

Example 2

	Total	Anhydrous Soap	Salt, etc.	Total Water	Glycerol
1st Change					
50% f.a. soap..	191.00	104.00	3.50	75.00	8.50
Brine	33.66	....	5.29	28.37	...
Contents of kettle after settling					
58% f.a. curd..	164.66	104.00	2.19	54.03	4.44
Spent lye	60.00	....	6.60	49.34	4.06
2nd Change					
58% f.a. curd..	164.66	104.00	2.19	54.03	4.44
Brine	60.00	....	6.60	53.40	...
Contents of kettle after settling					
58% f.a. curd..	164.66	104.00	2.19	56.15	2.32
Spent lye	60.00	....	6.60	51.28	2.12
3rd Change					
58% f.a. curd..	164.66	104.00	2.19	56.15	2.32
Brine	60.00	....	6.60	53.40	...
Contents of kettle after settling					
58% f.a. curd..	164.66	104.00	2.19	57.26	1.21
Spent lye	60.00	....	6.60	52.29	1.11

Summary

% Glycerol in fat charge	8.50
Spent lye made	180.00
Ratio of fat saponified to lye made	1.0:1.80
% Glycerol in spent lye	4.05
% Glycerol recovered	85.77
% fatty acids in settled curd at each change	58.00



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Example 3

	Total	Anhydrous Soap	Salt, etc.	Total Water	Glycerol
1st Change					
58% f.a. soap..	191.00	104.00	3.50	75.00	8.50
Brine	25.19	....	4.36	20.83	...
Contents of kettle after settling					
53% f.a. curd..	180.19	104.00	3.90	66.40	5.89
Spent lye	36.00	....	3.96	29.43	2.61
2nd Change					
53% f.a. curd..	180.19	104.00	3.90	66.40	5.89
Brine	36.00	....	3.96	32.04	...
Contents of kettle after settling					
53% f.a. curd..	180.19	104.00	3.90	68.21	4.08
Spent lye	36.00	....	3.96	30.23	1.81
3rd Change					
53% f.a. curd..	180.19	104.00	3.90	68.21	4.08
Brine	36.00	....	3.96	32.04	...
Contents of kettle after settling					
53% f.a. curd..	180.19	104.00	3.90	69.46	2.83
Spent lye	36.00	....	3.96	30.79	1.25
4th Change					
53% f.a. curd..	180.19	104.00	3.90	69.46	2.83
Brine	36.00	....	3.96	32.04	...
Contents of kettle after settling					
53% f.a. curd..	180.19	104.00	3.90	70.33	1.96
Spent lye	36.00	....	3.96	32.04	0.87
5th Change					
53% f.a. curd..	180.19	104.00	3.90	70.33	1.96
Brine	36.00	....	3.96	32.04	...
Contents of kettle after settling					
53% f.a. curd..	180.19	104.00	3.90	70.93	1.36
Spent lye	36.00	....	3.96	31.44	0.60

Summary

% Glycerol in fat charge	8.50
Spent lye made	180.00
Ratio of fat saponified to lye made	1.0:1.80
% Glycerol in spent lye	3.97
% Glycerol recovered	84.00
% fatty acids in settled curd at each change	53.00

Example 4

	Total	Anhydrous Soap	Salt, etc.	Total Water	Glycerol
1st Change					
50% f.a. soap..	191.00	104.00	3.50	75.00	8.50
Brine	9.66	....	2.65	7.01	...
Contents of kettle after settling					
58% f.a. curd..	164.66	104.00	2.19	52.97	5.50
Spent lye	36.00	....	3.96	29.04	3.00
2nd Change					
58% f.a. curd..	164.66	104.00	2.19	52.97	5.50
Brine	36.00	....	3.96	32.04	...
Contents of kettle after settling					
58% f.a. curd..	164.66	104.00	2.19	54.92	3.55
Spent lye	36.00	....	3.96	30.09	1.95
3rd Change					
58% f.a. curd..	164.66	104.00	2.19	54.92	3.55
Brine	36.00	....	3.96	32.04	...
Contents of kettle after settling					
58% f.a. curd..	164.66	104.00	2.19	56.18	2.29
Spent lye	36.00	....	3.96	30.78	1.26
4th Change					
58% f.a. curd..	164.66	104.00	2.19	56.18	2.29
Brine	36.00	....	3.96	32.04	...
Contents of kettle after settling					
58% f.a. curd..	164.66	104.00	2.19	56.99	1.48
Spent lye	36.00	....	3.96	31.23	0.81
5th Change					
58% f.a. curd..	164.66	104.00	2.19	56.99	1.48
Brine	36.00	....	3.96	32.04	...
Contents of kettle after settling					
58% f.a. curd..	164.66	104.00	2.19	57.51	0.96
Spent lye	36.00	....	3.96	31.52	0.52

Summary

% Glycerol in fat charge	8.50
Spent lye made	180.00
Ratio of fat saponified to lye made	1.0:1.80
% Glycerol in spent lye	4.19
% Glycerol recovered	88.70
% fatty acids in settled curd at each change	58.00

creased, as the rosin may be added at a point at which much less glycerol is contained in the kettle.

There would seem to be little advantage in increasing the number of changes above five. If five washes fail to wash the soap down to the desired glycerol residue, it is preferable to increase the volume of wash liquor used on each change rather than to increase the number of changes.

Point 3

EXAMPLES 5 and 6 have been included to illustrate the effect of varying the size of wash on each change of wash liquor, while at the same time using the same total volume of wash liquor. These examples should be compared with example 4 in which the same volume of wash liquor is used on each change. The relevant figures of the three examples are, for convenience, set out at right.

As will be seen, a slight advantage in performance is offered by example 4 in which the volume of wash liquor used on each change is kept constant, but the difference in performance between the three examples is not sufficient to merit special attention to the control of the volume of wash liquor used at each change. It is however interesting to note, when aiming for a fixed fat: lye ratio, corrections for over or under employment of wash liquor on the first four changes may be made on the last change without impairing the overall recovery. At the end of the fourth change in example 5 it should be known, for instance, that 160.0 of spent lye had already been made and therefore, provided the total should be 180.0, only 20.0 should be made on the last change. In example 6, at the end of the fourth change, only 120.0 had been made, so 60.0 must be made on the last change.

Point 4

MUCH has been written about the seriousness of leaving too much glycerol in salt recovered from the glycerine evaporators. Some commentators have even suggested that the glycerol is ultimately lost in its entirety in the subsequent use of the salt in process. This is not necessarily true. It is certainly very undesirable to allow too much glycerol to remain in the salt, because under certain conditions part of it may be lost, or to avoid loss completely an increased volume of wash liquor must be used.

Example 7 will help to clarify

(*Turn to Page* 153)

Examples	Glycerol spent lyes made in fat	1st	2nd	3rd	4th	5th	Total lyes made	% Glycerol in lyes	% Glycerol recovered
4.	8.50	36.0	36.0	36.0	36.0	36.0	180.0	4.19	88.7
5.	8.50	60.0	50.0	30.0	20.0	20.0	180.0	4.16	88.0
6.	8.50	40.0	20.0	20.0	40.0	60.0	180.0	4.16	88.12

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Ritchie Issues Booklet

A 16-page booklet entitled "101 Ways to Better Packaging" was recently issued by W. C. Ritchie & Co., Chicago. One section of the publication is concerned with considerations involved in the choice of a new package or a redesign. Nature of product, method of filling the package, cost factors, etc., are reviewed.

Another section carries packaging pointers, including suggestions for displayability, stackability, creating multiple sales, packaging responsibilities, re-use packages, and multiple packages.

The booklet carries illustrations of the containers manufactured by Ritchie: folding cartons, set-up boxes, transparent packages, round boxes, fiber tubes, cans and spools, and is available on request by writing the firm at 8802 Baltimore Ave., Chicago.

Pulva Offers New Units

Pulva Corp., Perth Amboy, N. J., recently announced "Pulva-Sizers" C and D, bringing its line of pulverizing mills to five models, ranging from the "Pulvette" with ¾H.P. motor to model D which uses up to 100 H.P. motor. "Pulva-Sizers" are impact mills of the swing hammer type employing high speeds and close clearances for fine grinding. The use of knife-type hammers and low speeds with controlled clearances fits them for many granulating operations. According to the manufacturer they may be used for dry grinding as well as wet milling.

The two new models have twin feed screws in sizes from 1¾ inches to four inches in diameter. The same feed drive gear is used for all sizes of feed screws. The wearing edge of the hammers is built up with hard surfacing alloys, such as the new "Pulvalloy." Models C and D have quick opening hinged covers giving complete access to the grinding chambers.

New Lindane Vaporizer

A new convection type, low temperature, dry lindane vaporizer, called "Bug-Git" and developed at the University of Michigan laboratories has recently been announced by Lindavap Corp., Ann Arbor, Mich. The unit consists of a shallow perforated retaining cup. Pellets of lindane are charged to the cup to form a highly porous bed. The cup is supported on a housing or chimney which is perforated at the bottom. A small insulated electrical resistance heater is located near the bottom of the housing. The housing serves as chimney which permits the continuous passage of heated air upwards through the chimney and through the bed of lindane pellets, vaporizing them.

Vaporization occurs at temperatures far below the melting point of lindane, thereby preventing vaporization in excess of one gram every 24 hours per 15,000 cubic feet of space. According to the manufacturer it will not decompose lindane into dangerous toxic compounds.

"Bug-Git" features automatic climatic control. On colder days when insect activity is low the rate of vaporization is automatically decreased. The exterior of the unit is of hammered silver. The lindane pellets used in the unit are available only through the manufacturer.

New Mead Mill Catalog

Mead Mill Co., Detroit recently issued a new four page catalog describing the firm's five high speed impact type pulverizers ranging in horse power from 1 to 30. A large cutaway view illustrates the impact principle employed by these mills. Installation drawings, and a graph giving production information for tough resilient material, friable and highly friable materials are included. A new mobile laboratory pulverizer designed for convenience in successively processing different materials is also shown. Copies of the folder are available.

Data on Tall Oil Esters

Tall oil esters are the subject of bulletin 10, recently issued by the Tall Oil Association, New York. Esterification methods and uses for monohydric esters, polyhydric esters, mixed ester, and monoesters are discussed. Ester testing methods are mentioned. Wetting agents, de-emulsifying agents, and emulsifying agents are among the products in which tall oil mono-esters may be used.

Sequestrene Data

"Sequestrene" (ethylenediamine tetra-acetic acid) and its applications are the subject a 54-page brochure recently published by Alrose Chemical Co., Providence, R. I. "Sequestrene AA" is ethylenediamine tetra-acetic acid, "Sequestrene NA2" the dihydrated disodium salt, "Sequestrene NA3" the monhydrated trisodium salt, "Sequestrene NA4" the dihydrated tetrasodium salt, "Sequestrene A" the tetrasodium salt in aqueous solution.

After giving physical constants of these compounds and general information concerning them the book devotes a chapter to their ability to form stable complexes with heavy metals and alkaline earths and to the ionic equilibria involved. Among a number of applications of "Sequestrenes" discussed in the book is their use as synergists in quaternaries and phenolics to enhance germicidal activity. Soil solubilization, radioactivity decontamination, hard water emulsions, are among the recommended fields of application. Addition of "Sequestrene" to soap products is claimed to prevent formation of soap curd and film; in neutral or alkaline solution it is said to dissolve precipitated calcium and magnesium soap. Apart from its use as a water softener "Sequestrene" is recommended as an antioxidant, foam builder, detergency booster and clarifying agent in soap. However, its behavior in some respects is not wholly predictable on the basis of its metal chelating properties. The use of "Sequestrene" as foam stabilizer and detergency builder in certain types of synthetic detergents is recommended. The book contains 226 literature and patent references.

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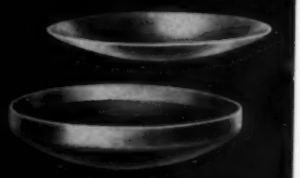
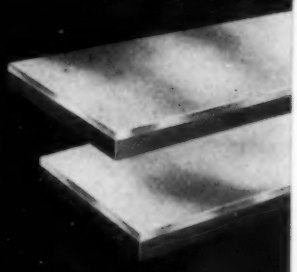


ALLOY AND CARBON STEEL PLATES



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PRODUCTION Clinic

By E. G. Thomssen, Ph.D.

PURE water is of much importance in the manufacture of certain sanitary chemicals. Not only does impure water introduce undesirable constituents but it also greatly diminishes the brilliance or clarity of the finished product. For example, liquid waxes may not emulsify as they should if the lime and magnesia content of ordinary tap water is high because of the formation of insoluble calcium or magnesium soaps in the processing procedure.

Liquid soaps, in which clarity and brilliance are important characteristics, cloud up considerably when made with impure water, and they lose some of their lathering power, as well.

Since the so-termed "pure' water is not generally suitable for industrial purposes, it is of importance not only to filter out and coagulate the filterable impurities, but also to remove the dissolved lime, magnesia and iron salts so frequently encountered. Tap water is quite suitable for drinking purposes, but it is poor economy not to soften or deionize it for manufacturing sanitary chemicals.

Two methods for removing undesirable salts from water are used extensively. These are the so-called Zeolite or Permutit System and the deionizing or demineralizing method. Distilled water may also be used, but is too expensive. The installation of lime-soda water conditioners usually is too elaborate to be economically feasible. Water purified by these methods is acceptable, however.

The Zeolite method of softening water has been used for many years. Controls have been improved upon considerably since the method was first introduced. Systems are now furnished for full automatic, semi-automatic or manual operation. Pressure or open type units are available and in capacities to treat from small to large quantities of water. The water from the Zeolite System is suitable for most chemical processing operations. The installations are not expensive and operating costs are said to be economical.

The Zeolites occur abundantly as natural mineral deposits. When

DR. THOMSSEN

treated with acids they partially dissolve and leave silica behind in a gelatinous state. These silicates are capable of giving up their basic constituents when placed in certain solutions, such as exchanging their soda content with lime and magnesia, the usual hardening constituents of water. When all the soda has been given up, the Zeolite is regenerated by passing a strong salt water solution through it and washing out the excess salt with water. To carry out the softening operation, all that is required are two tanks of suitable construction. Valves to control the flow of water also are an important part of the installation. In one tank, usually a closed or pressure system, the required quantity of Zeolite is added; in the other, the salt solution is made.

Since water softened with Zeolite alone is alkaline in character and not suitable for some types of processing, hydrogen-sodium-Zeolite units are available. These furnish water of zero hardness and they control the alkalinity.

De-ionizers or demineralizers produce pure, solids-free water, and may be modified to remove silica, too. The water obtained is comparable to distilled water except for removal of bacteria, organic substances and other non-ionizable materials. It costs but a fraction of the cost of distilled water. By this method, tap or well water is conducted through beds of synthetic resins. These resins change the salts dissolved in the water into their corresponding acids. The acids are removed and the purification goes on until the capacity of the cation and anion exchange resins is exhausted. Then they are regenerated quite simply with cheap chemicals. Deionizers come in laboratory and industrial sizes. Cartridges of resins are available for the smaller sizes. Two bed and four bed systems are available. In the two bed system, one bed employs the cation resin, the other the anion; for four beds, two layers of each type resin are used. The latter is more efficient and operates much longer before regenerating is necessary.

The equipment usually consists of pressure tanks, regenerant tanks, valves, piping, a control panel and water meter. These come in a package type style completely assembled on a steel base. They are very readily installed by merely connecting the water supply, drain and treated water storage.

Tanks

WHILE tanks are used in large quantities in plants producing chemical specialties, it is rather difficult to state specific requirements for their use. This depends upon the individual operation. The term "tanks" covers a lot of ground. It applies to those made from steel, wood, aluminum, glass-lined, hard rubber or stoneware. Then, again, the term refers to car or truck tanks, storage tanks, pressure tanks or processing tanks.

Just a few suggestions regarding tanks are in order. The size of the tank, its shape, the size and location, outlets, weight of material entering its construction, corrosion resistance and facility of cleaning operation should be paramount in selection of tanks. Unless all of these are considered, initial cost is a negligible factor as compared with later difficulties in

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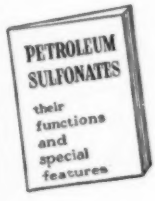

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operation or obsolescence. We have frequently noted cases where tanks have been purchased because they were cheap and available. Later on, difficulty cropped up which was expensive to overcome. Where corrosion may be a problem and stainless steel or other resistant tanks are proposed, it is important that consideration be given to the action of corrosive substances on the construction materials. It is not sufficient to specify a corrosion resistant tank. It must be explicitly stated what acid or other substance the construction material is resistant to, as well as at what concentration of the chemical the material is resistant.

Too often tanks are chosen haphazardly in the sanitary chemical industry. It appears to be a simple matter but since tanks are in operation more frequently than other pieces of equipment, they should be investigated thoroughly.

(To be continued)

Industrial Clothing

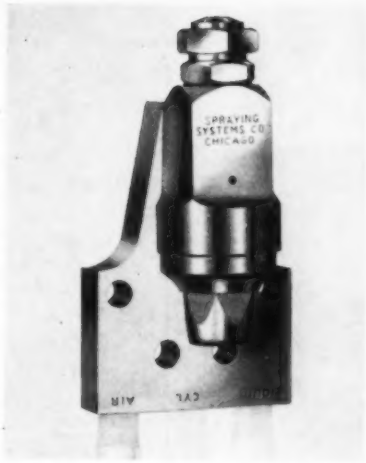
THE textile fibers department of Carbide & Carbon Chemicals Co., New York, recently issued a folder on the chemical resistance of "Dynel." Industrial clothing made from this new fiber outlasts others by as much as 10 to one, according to the company. Jackets, trousers, laboratory aprons, etc. made from "Dynel" will launder a long time, have very good strength, are unaffected by most chemicals, won't shrink and do not support combustion.

Mineral Pigments

METALLIC colors are used in preference to anilines because of their greater resistance to decolorizing in certain products and because they act as extenders. The C. K. Williams Co., Easton, Pa. specializes in such pigments in numerous shades. Technical data may be had upon request.

Automatic Feeders

A LINE of continuous, accurate and automatic feeders are built by Omega Machine Co., Providence, O. The feeders fill from a few ounces to several pounds of dry material very accurately. Other advantages are dust-free filling, a variable speed drive that assures a uniform rate of feeding, a dosage check by weighing scales, low filling height, and an integral hopper that may be sized up to 5 cubic feet or sufficiently large to hold dry products dumped from bags, barrels or drums.



New Spray Nozzle

New Plate Mounted Nozzle

Spraying Systems Co., Bellwood, Ill., recently introduced "JAU-PM" automatic pneumatic atomizing nozzles. These plate mounted nozzles, supplied in a full range of pressure and siphon set-ups, are designed for intermittent operation in any frequency and cycle desired. Operation and shut-off are instantaneous under air pressure control. In this type of nozzle the liquid, atomizing air, and control cylinder air connections are made permanently to the plate. The nozzle is held in place by a single lock nut. Its removal requires only a few turns of the lock nut. Data sheets 4776 and 4431 giving complete information on the new nozzles are available from the company.

Non-Corroding Pumps

NON-CORRODING and non-contaminating pumps that handle from fractions of gallons up to 20 G.P.M. are now available from Vanton Pump Co., New York. These pumps are so built that the liquids contact the non-corroding liner inside the block of the body of the pump. Various liners made from natural or synthetic rubber, Vinyl and Compar are to be had in 35 combinations if desirable. These will handle acids, strong alkalis, distilled water and many other substances. Vanton pumps are made without stuffing boxes, gaskets or valves and are self-priming and self-lubricating. Literature is available upon request.

Jefferson Amines

MONO, di, and triethanolamines are used in considerable quantity in the sanitary chemical industry for various purposes. Jefferson Chemical Co., New York, is offering prompt, satisfactory deliveries of high grade products of this sort. Jefferson is among the newer suppliers.

Small Dryers

RAPID drying and cooling of small quantities of products are possible with the line of ovens and dessicators offered by Harry W. Dietert, Detroit. Drying and cooling can be accomplished by hot, radiant or cooled air with at least four different pieces of equipment. Fuller descriptions and prices are available.

Bag Sealers

THE constantly increasing cost of aging powdered materials makes the investigation of paper bags desirable. Bags may be lined with various substances for heat sealing or protection of the contents. The sealing of the filled bag is very important. A sealer, Model C.S.G., which recommends itself is built by the George H. Fry Co., New York. This machine gives a double folded, sift-proof, heat seal to any heavy weight paper bag. The initial fold is tightly and securely heat-sealed and the second fold is a glue seal for safety purposes. Other models of sealers are available to fit any bag sealing problem.

In the case of textile or larger sized bags the portable bag closer made by Dave Fischbein Co., builders of industrial sewing machinery, Minneapolis (3), Minnesota, will handle the job. This 10½ lb., versatile sewer may be plugged into any available electric outlet. It is economical in cost and use. The company claims that over 4,000 of these machines are in use. Full details are available upon written request.

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HYSAN PRODUCTS 301 N. Market St., Dallas, Texas
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Products and PROCESSES

Insecticidal Soap

A soap of fatty alcohol sulfonates and DDT and additives (Pedixol) exhibited good antiparasitic effects when used on dogs against fleas and other parasites. The effect lasted over a period of approximately four weeks. *Mh. Veterinaermed.* 6, 1951, nach C. 1951, I,3254. Through *Seifen-Oele-Fette-Wachse*, No. 15/1952.

Saltwater Soap Patent

Soap which lathers in sea water is prepared by either mixing 4-10 per cent of an acid, e.g., palmitic or stearic acid, with an alkylaryl sulfonate, then neutralizing the mass with NaOH, or by mixing an alkylaryl sulfonic acid with the fatty acid and neutralizing the mixture. Another method is to mix the fatty acid with an alkylaryl hydrocarbon sulfonate and finally neutralize. French patent 969,622.

Hard Toilet Soap

A neutral soap is superfatted in a crutcher with 5-100 per cent free fatty acid, dried to 9-10 per cent moisture and pressed into cakes. This results in a hard toilet soap. British patent 664,484.

Detergents for Measuring

Use of detergents for separation of butterfat from milk for measurement purposes is being investigated by U. S. Department of Agriculture. Sulfuric acid has long been used for this purpose, but detergents permit clearer reading because they do not have a corrosive effect on test bottles as sulfuric acid does.

Soap Rancidity

Rancidity of soap and its inhibition are reviewed in the *Journal of Oil Chem. Sc. of Japan*, 1, No. 1, 17-21 (1952). The surface and center of a specimen of rancid soap had, respectively, moisture 20.2, 13.7; free alkali 0.16, 0.18; NaCl (dry basis) 0.90, 0.32 per cent; saponification value of fatty acids 217.2, 212.4; neutralization value 208.1, 207.2; iodine value 33.9, 48.6; oxidized acids 3.75, 2.19 per cent. Iron oleate, especially, ferrous oleate, was prominent as the cause of rancidity. Through *Chem. Abstracts*, July 10, 1952, p. 6411.

Soybean Oil Evaluation

A method of determining the oil content of soybeans in 15 minutes or less, as contrasted with the several hours required by the official method now in use, has been developed by grain technologists of the U. S. Department of Agriculture in cooperation with a commercial firm engaged in the development of electronic equipment.

The new method is said by department technicians to have possibilities for routine use in the inspection of soybeans. Several firms are already using it. The method involves use of a high-frequency oscillator for measuring the quantity of oil in a solvent. Soybean samples are ground in a special grinder-extractor with an oil solvent. The oil in the soybeans is extracted in this grinding. The solvent containing the oil is then filtered and placed in the cell of the electronic oscillator which measures its dielectric properties. The reading is converted to per cent of oil by means of a conversion table developed from data obtained by analyzing a large number of samples of soybeans by the customary chemical method.

Antibacterial Detergents

Detergents are subdivided into nonionic, anionic possessing acidic characteristics, and cationic or ammoniacal products. A relation exists between the diminution of surface tension and bactericidal efficiency of detergents. Efficiency depends not only on the positive or negative charge, but also on the structure of the quaternary molecule. Acidity plays an important part in toxicity; in general, the inhibitory action of a cationic detergent increases with alkalinity while that of an anionic detergent increases with acidity. Rise in temperature from 20° to 37° increases activity. Suggestions are made for the types of detergents most suitable for various forms of disinfection. J. Voets. *Parasitica* (Gembloux) 6, 98-106, 1950. Through *Chem. Abstracts*, vol. 46, number 13, p. 6182.

Lindane Fumigating Strip

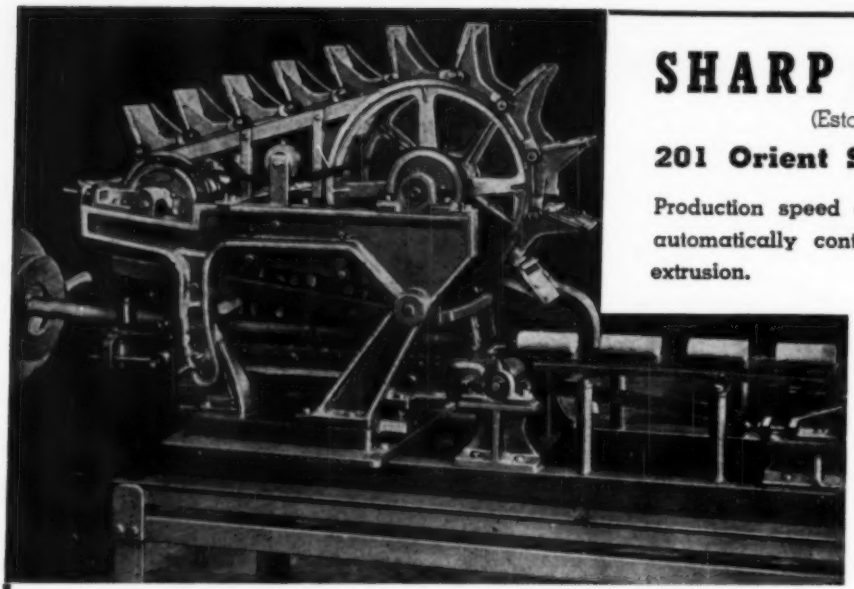
A fumigating strip called "Nexa," developed in Europe, was recently introduced in this country by American Nexa Corp., New York. Each strip is said to contain enough lindane to fumigate an average sized room. According to the manufacturer the strip is used by folding it, placing it on the edge of an ashtray and lighting it with a match.

New Paraffins Shown

Achema, the international chemical equipment fair held in Frankfurt am Main, Germany, was closed recently. The Coal Chemistry Association displayed new synthetic waxes at the fair, with a variety of special properties; one paraffin shown has a 239° F. melting point.

Cockroach Repellency Test

Determination of the repellent action of chemicals to the American cockroach is described by L. D. Goodhue and Carolyn Linnard, Phillips Petroleum Co., Bartlesville, Okla. The test chemicals were deposited from acetone solutions on the inside walls of lidless paper cartons which were placed, open ends down, on the floors of screen cages which held the test insects. Notches cut in the rims of the cartons allowed the roaches to enter. A fluorescent light in the room induced the roaches to seek dark shelter of the least-repellent carton. Of more than 200 chemicals screened for repellent and attractant action by this method, organic peroxides and butadiene-furfural copolymer proved highly repellent. The latter is a high-boiling stable compound with little odor which appears to have value as a cockroach repellent. Other tests showed that it is also repellent to mosquitoes, houseflies, and stable flies. *J. Econ. Entomol.* 45, 133-4 (1952).



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NEW Patents

The information below is furnished by patent law offices of

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The data listed below is only a brief review of recently issued pertinent patents obtained by various U. S. Patent Office registered attorneys for manufacturers and/or inventors. Complete copies may be obtained direct from Lancaster, Allwine & Rommel by sending 50c for each copy desired. $1.00 for Canada. They will be pleased to give you free preliminary patent advice.

No. 2,600,221. Cleansing method, patented by Emil Domingo, New York, N. Y. The method of examining a surface for visually undetectable organic contamination is patented and includes the steps of treating the surface with an excess of chemical solution that is selectively sorbed by the organic contamination and rinsing the surface to remove the excess solution not sorbed to cause said contamination to bceome visually evident and distinct from portions of the surface not so contaminated when exposed to an appropriate light band.

No. 2,595,371. Insect Repellent Ointment Comprising Hydrogenated Rotenone and 2-Amino-2 Methyl-1,3-Propanediol, patented by Robert W. Scanlan and Hugh R. Cunningham, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware. The patent discloses an insect repellent ointment prepared by forming an intimate mixture of:

	Parts by weight
Beeswax	5
Stearic acid	25
Spermaceti	3
Hydrogenated rotenone	0.125
Mineral oil	20.375
2-amino-2-methyl-1,3-propanediol	1.5
Glycerin	7
Phenol	0.5
Zinc stearate	0.8
Water	50

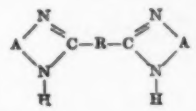
No. 2,596,829. Wax Compound and Method of Making, patented by Ralf B. Trusler, Dayton, Ohio, assignor to The Davies-Young Soap Company, Dayton, Ohio, a corporation of Ohio. In a composition for polishing and filling the patent describes the combination consisting essentially of a montanic acid ester of ethylene glycol forming a wax of an acid number of from 20 to 50 and a petroleum solvent with a flash point between 50° and 90°, said wax being present in the amount of about 4% on the weight of the composition and dissolved in said solvent to the extent of not less than 10% and not more than 20% of the wax, the balance of the wax being retained in finely divided suspension in the solvent as a settling filler.

No. 2,595,217. Chlorinated Camphene-Oil Insecticidal Compositions and Method of Making, patented by Thaddeus Parr and Murray Zakheim, Philadelphia, Pa., assignors to The Pennsylvania Salt Manufacturing Company, Philadelphia, Pa., a corporation of Pennsylvania. A method of making an insecticide dust and spray base is described comprising mixing a major portion of a normally solid chlorinated camphene while in its molten state with a minor portion of an oil having an S. S. U. viscosity rating of 100° F. of less than 210 and a boiling point above 120° C. for at least 90% of its ingredients, adding said chlorinating camphene-oil mix to a solid absorbent diluent material and agitating the chlorinated camphene-oil mix and absorbent diluent until said chlorinated camphene-oil mix is thoroughly incorporated within said diluent material.

No. 2,605,293. Production of Glycerine, patented by Francis T. Tymstra, Houston, Tex., assignor to Shell Development Company, Emeryville, Calif. In a process wherein an aqueous solution of dichlorohydrin isomers is hydrolyzed to glycerine, the patent describes the steps comprising diverting from about 20 to 75% of said solution through a unit wherein said dichlorohydrin isomers are converted to epichlorohydrin, combining the epichlorohydrin formed in said unit with the undiverted portion of said dichlorohydrin solution, and hydrolyzing the chlorohydrins present in the resulting solution to glycerine.

No. 2,604,489. Ether Esters of Glycerol, patented by Donald S. Melstrom, Oakland, and Seaver A. Ballard, Orinda, Calif., assignors to Shell Development Company, San Francisco, Calif. A beta-gamma-alkenyl ether of a glycerol (3,5-dimethylphenyl) ether ester of an organic carboxylic acid is described.

No. 2,064,454. Detergent Composition Containing Diimidazoles, patented by Franz Ackermann, Binningen, and Jules Meyer, Basel, Switzerland, assignors to Ciba Limited, a Swiss firm. A detergent composition is covered consisting essentially of a water-soluble, synthetic organic, anion-active detergent selected from the group consisting of water-soluble soaps and synthetic, organic, non-soap, anion-active, sulfonated detergents containing 0.005 to 1 per cent. by weight of an asymmetric substitution product of a diimidazole of the general formula



wherein A is an aromatic radical of the benzene series in which two vicinal carbon atoms are bound to nitrogen atoms of the imidazole rings and R is an ethylene radical.

No. 2,605,207. Insect Repellents, patented by Nathan L. Drake, College Heights, Md., Charles M. Eaker, Affton, Mo., and Wilbur J. Shenk, Cleveland, Ohio, assignors to the United States of America as represented by the Secretary of the Army. The patent describes an insect repellent composition comprising a member of the group consisting of the cyclohexyl ester of 1-hydroxy-cyclopentaneacetic acid, the cyclohexyl ester of 1-hydroxy-cyclohexane-carboxylic acid, the cyclopentyl ester of 1-hydroxy-cyclohexaneacetic acid, and the cyclohexyl ester of 1-hydroxy-cyclohexaneacetic acid; and a non-toxic insect-repellent adjuvant as a carrier therefor.

No. 2,605,208. Insect Repellents. patented by Paul D. Bartlett, Weston, Mass., and Hyp J. Dauben, Jr., Seattle, Wash., assignors to the United States of America as represented by the Secretary of the Army. An insect repellent composition is described comprising a substance being a member of the group consisting of N-acyl-substituted 1,2,3,4-tetrahydro-quinoline and N-acyl-substituted 1,2,3,4-tetra-hydroquinaldine, the N-acyl-substituent of said substance having from 2 to 4 carbon atoms; and a non-toxic insect-repellent-adjuvant as a carrier therefor.

No. 2,603,606. Stabilized Aqueous Solutions of Surface-Active Sodium Secondary Alkyl Sulfates, patented by Siegfried Leonard Langedijk and Pieter Nicolaas Degens, Amsterdam, Netherlands, assignors to Shell Development Company, San Francisco, Calif. A surface-active composition is patented consisting essentially of an aqueous solution of sodium secondary alkyl sulphate having from 8 to 20 carbon atoms in the molecule containing 20% to 30% by weight of sodium alkyl sulphate, from 2% to at least 7% of sodium sulphate and such a proportion of an inorganic potassium salt selected from the group consisting of potassium sulfate, potassium chloride, and potassium nitrate that the atomic ratio between potassium and total sodium in the solution ranges between about 0.3:1 and 1:1.

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SOAP PLANT Observer

By John W. McCutcheon

LAST month a brief note was made on the place of phase studies in kettle house operations, some soap specifications and the varying amounts of glycerine left in soap.

Management sets up the soap's glycerine content as a maximum limit which the soap boiler must meet. In the case cited last month the glycerine contents were 0.3 per cent max. for toilet base; 0.2 per cent max. for laundry base, and 0.7 per cent max. for industrial flake base. The figures are based on a 63 per cent fatty acid kettle soap.

The firm had no desire to leave more glycerine in the industrial flake base than in the toilet base. However, the method of operating the kettle house dictated these particular values. Industrial flakes, for example, were made on a small scale and contained a fairly large percentage of soft oils which were added to the kettle in the form of foots. In addition, it was not desired to mix the lyes used in producing the industrial flakes with those from the other soaps. Because of these considerations, the management of the firm did not wish to set up a standard of performance which would be impractical to meet. Nothing causes more internal friction in a factory than failure to observe such a policy.

In the case of the laundry soap, which was the principal type produced, a greater degree of economy could be observed by following the methods outlined below. Lyes were used in counter current fashion. The second wash from one kettle was used on the first wash of another which, in turn, was used for the killing seat of a third. In this way the overall lye volume was kept to a minimum value while maintaining a large wash volume per kettle.

Under practical conditions, the 0.2 per cent glycerine left in the laundry soap was maintained at a lye production of about one ton of lye per ton of fat saponified. On this basis the glycerine content of the lye would run about 11 per cent. If counter current flow of lyes had not been practical, as is often the case where a large variety of soaps are made, then the glycerine left in the soap would have had to be increased to approximately 0.4 or 0.5 per cent to maintain the same lye to fat ratio. Conversely, the glycerine content could have been kept at 0.2 per cent without counter current lye flow by increasing the lye to fat ratio up to 1.5 or so.

On the basis of 2,000,000 pounds of fat saponified per month to produce 3,000,000 per cent of kettle soap, this would mean evaporating 1,000,000 pounds of water to recover 6,000 pounds of glycerine, which obviously is impractical. Most soap plants try to keep a close record of the amount of lye evaporated per month, so that the ratio of lye produced to fat saponified is readily available. Since there are all kinds of ways in which water can get into the lye system and lye can get out, these figures often become quite fouled up. One safe way to check this ratio is by comparing the weighted average glycerine content of the fats charged to the kettle with the weighted average glycerine content of the lye sent to the evaporators. If these figures are 10.8 per cent and 8.0 per cent respectively, then the lye to fat ratio must be 10.8 ÷ 8.0 or 1.35. Of course, this, too, depends on the accuracy of sampling and the analysis.

* * *

IRON in soaps has already been something of a problem. It gets in from the iron tanks, pipes, caustic soda, etc. Caustic soda may leave the producing factory with an iron content of almost nil and arrive at the plant containing 30 to 50 ppm of iron as Fe. Unusual sources of iron also exist.

Some time ago the writer had such a problem when a toilet base type of soap was found to develop brown circular spots after standing some months. Often such spots can be caused by a reaction of the sulphite paper, used in wrapping, and the perfume, or from rancidity caused by the use of oxidized or poorly treated fat stocks, from incomplete kettle saponification or from excess iron salts which have not been fully reduced in the kettle by some chemical means, as by the addition of hydros to the extent of a few tenths per cent. This last is a subject on which very little has been written and yet there are few plants that have not at some time or other used this regularly. Actually, the iron in such case is not removed, merely transformed to the harmless colorless ferrous state and subject to reversion.

In the case of our toilet bar, however, the discolored spots were very regular and circular in nature, leading us to the conclusion that it was progressive in nature and emanated from a point source. This was confirmed by use of a microscope, and a few specks of the trouble maker isolated. All we had to do then was pass a magnet over them to prove they were metallic iron and our problem was solved. The iron had been getting into the dried flakes from a continuous heelix conveyor which transported the flake to the mill storage bins. When these were overhauled and replated, the trouble was over!

Iron also can cause trouble in liquid soaps although it is generally not the great offender. More often the precipitation, as H. Kranich has pointed out (*Soap & Sanitary Chemi-*

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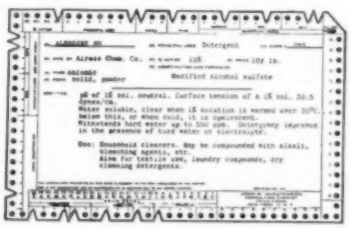

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JOHN W. McCUTCHEON, Consulting Chemist
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cals Nov. 1947 p. 33), is due to the reaction of the alkaline soap with the glass itself. This applies when the soap has been made under the exacting conditions which require chilling to remove excess saturated soaps (See E. G. Thomssen, *Soap & Sanitary Chemeicals*, April 1948, p. 44) and soft water for their dilution.

It would appear from Mr. Kranich's work that the bad-acting surface salts in the glass could be removed with an acid wash or steaming, but the bottle companies thought this was too much work. Glass is used satisfactorily for packaging milk, vinegar, catsup and sliced beets, so why are they not good enough for soap? Glass bottle manufacturers, you see, did not know about plastics at that early date!

When iron is present, more often than not, other metals are present also. For example, copper. This metal is not a common source of trouble fortunately, since it is a very bad factor in causing soap to become rancid. Copper sources are not alarmingly large. For example, the corrosion resistance of monel makes it a safe metal for kettle lining. Under highly alkaline conditions at high temperatures, as in the concentration of caustic soda, monel will dissolve sufficiently to raise the copper content of the product to dangerous limits, such as two to five ppm.

H. W. Zussman (*Soap & Sanitary Chemicals*, Feb. 1948, p. 57) has presented data to indicate that cobalt is also a catalyst in producing rancidity in soap. At any rate, traces of metals and alkaline earth metals in soap are objectionable from several angles. This is somewhat true also for synthetic detergents. Iron for example will cause discoloration which necessitates great care in the choice of metals for equipment construction.

Some of these problems may be solved very readily on recognition of the source of the trouble as in the case of the iron particles in the toilet bar. Others are not solved so easily or are solved only partially. The best solution to date for the liquid soap in glass problem appears to be the use of sequestering agents which form soluble complexes with the metals. Most of these products have multiple carbcxy groups which form a chelate complex with the metal ion and permanently prevent its precipitation. The mechanism of this reaction has been treated in masterful fashion elsewhere (See H. W. Zussman — *Soap & Sanitary Chemicals*, February 1948-57) and will not be further elaborated on, except to say that a variety of these products with properties closely similar to one another are available. Some of these are designed for use in neutral solution, some for use in highly alkaline solutions, some for iron, etc. Over twenty-five present products of this class include "Nullapon-BF" acid, "BF-12," "BF-78," "FA-15," Fe-12"; "Igepon TK-42"; all made by the Antara Chemicals Div. of General Dyestuff Corp.; "Chel 242," "242L," "242P"; "Sequestrene A," "AA," "NA-2-3-4" and "Sequestrene ST," all of the Alrose Chem. Co.; "Perma Kleer 50," "53," "SP," "OH," "ACA-100" and "Perma Kleer R," all of Refined Products Co.; "RN Water Softener A" of Riches-Nelson Co.; "Versene Fe_3 Specific," "Fe-3" and "Versene T," all of the Bersworth Chem. Co.

Zussman also shows that the sequestering power is roughly proportional to the atomic weight of the metal. For example, a sequesterant would chelate 40 parts of calcium for every 56 parts of iron or 24 parts of magnesium. A few hundredths of a per cent is sufficient in liquid soaps to sequester the alkaline salts by glass erosion. A small amount in the soap kettle does permanently what hydros (sod. hydro sulfite, $Na_2S_2O_4$) does on a temporary basis.

The problems discussed thus far concern product quality and manufacture control and seem to have little direct connection with those of the user. It is also important to consider such effects which actually are more basic. Soap, of course, precipitates the lime and magnesium salts from hard water,—the bathtub ring. This has been avoided by the use of synthetic detergents which do not precipitate such salts under normal use. It has been partially overcome in soap products by adding builders such as the polyphosphates and CMC, which sequesters the precipitate and minimizes its chance to stick to surfaces. So far it is not economical to consider the use of sequestrants for this job because of the large amount that would be required. In the metal and mechanical dishwashing fields we have a different type of problem. Here the products frequently contain the minimum of foaming agent and the maximum of strong alkalis such as caustic soda and soda ash. They are used under such conditions that the temporary hardness of the water is destroyed by heat or is precipitated by the soda ash or phosphates present in the cleaner.

According to a recent patent assigned to Diversey Corp. (U. S. Pat. 2,584,017), sequestering agents of the type described above are effective in

(*Turn to Page* 163)

Glass Cleaners

(*From Page* 49)

ing agent such as soap or a wetting agent combined with glycerine, with perhaps an inert filler. (18) Glycerine is a well established component of such products and is sometimes used alone as a form of liquid antifogging agent. Government tests have shown that it is highly effective for this use. (19)

More commonly, however, a number of ingredients are used to provide a more rounded effect. For example, a mixture of equal parts of glycerine and denatured alcohol is recommended (20) to prevent "steamy" windows. Synthetic detergents may also be used in fluid antifogging preparations. One patent specification (21) for such a composition calls for the use of a water soluble salt of a diester of sulfosuccinic acid. Of related interest is an antifogging solution consisting of: (9)

Detergent (Aerosol OT, aqueous 10%)	1 fl. oz.
Glycerine	1 pint
Alcohol	4½ pints
Acetone	½ pint
Water	8 pints

Several years ago, Matthews (22) reported that an aqueous solution of one per cent of sodium hexametaphosphate and one per cent of glycerine prevented misting of win-

dows, mirrors, respirator eye pieces and the like. More recently, Flaxman (23) suggested the use of up to one per cent of sodium or potassium ammonium pyrophosphate in a water-alcohol mixture to produce a clean glass surface capable of being evenly wet by rain or fog.

Also worth noting is the following preparation which is used by the British Royal Air Force as an antimisting agent for aircraft windows:

	per cent
Sodium oleyl sulfate	18.0
Titanium oxide	27.0
Industrial alcohol	33.0
Water	22.0

The preparation is shaken before use, applied to the windows and allowed to dry; the resulting white film being removed by gentle polishing. The coating of wetting agent left is said (24) to be invisible, nontacky and long-lasting.

It should be mentioned in passing that Federal Specification P-G-406 provides a procedure for testing the efficacy of the antifogging type of glass cleaner. The method is, no doubt, applicable to the testing of other kinds of antimists.

Paste Type Compounds

THE active ingredients of paste type compounds do not differ materially from the liquid preparations. Thus, glycerine remains an important component in these products; soap often being used to provide the desired pasty consistency. (3, 18, 20) Modified glycerine-soap mixtures may be used in the same way to make the pencils or sticks recommended (25) for preventing fogging of goggles and eyeglasses from perspiration or temperature changes. Materials like precipitated chalk or kaolin may be included in the paste or pencil mixes as fillers or to ease rubbing and polishing. Sticks of hard soap have also been suggested (26) to prevent fogging. In making antifog sticks for glass, manufacturers might well take cognizance of the experience gained in the cosmetics field for the production of perfume and deodorant sticks. Other types of film-forming materials to prevent mist and frost formation on glass and clear plastics are described in several British patents. (27, 28, 29)

Although impregnated papers have long been available for use on glass surfaces, (30) there is no doubt that the introduction of silicone-treated tissues greatly stimulated the popularity of such products. Since then other types of treated papers have been placed on the market. One such lens tissue consists of sheets impregnated with a mixture of sodium oleate and sodium alkyl naphthalene sulfonate. It is claimed that use of these tissues keeps glasses fog-free for 24 hours. (31)

Impregnated cloths are more efficient than paper tissues when it is desired to treat large glass surfaces such as windshields, showcase windows and the like. A number of compositions for preparing such antimist cloths have been developed in both government (19) and industrial laboratories. (3) From the latter source comes a formula that is already being used by several manufacturers for making an efficient antifogging cloth. Developed, tested, publicized and made freely available by du Pont, (32) this process consists of impregnating a suitable fabric (e.g. diaper cloth) with the following solution:

Fatty alcohol sulfate (Duponol ME, dry)	700 Gm.
Tannic acid	90 Gm.
Glycerine	160 Gm.
Pontamine Sky Blue 6BX conc. (100%)	9 Gm.
Water, to make	8 liters

According to patent sources, (33) other surface active agents, like sodium sulfosuccinate and various polyglycerine esters of soap-forming fatty acids, may be used to prepare antidimming cloths for glass surfaces.

Several antifog preparations have been developed for use on both glass and clear plastic. One series of products of this sort has been described (34) as consisting of a mixture of a wetting agent, such as an alkyl aryl sulfonate, a water-insoluble solvent similar to petroleum jelly, a water-soluble adhesive like gum tragacanth, and an antifreeze agent, such as glycerine or ethylene glycol.

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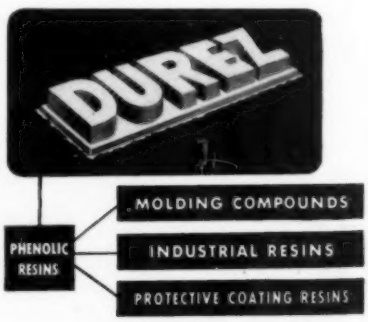

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ALLETHRIN from U.S.I.

U.S.I.'s full scale plant for the production of Allethrin is practically complete and will be ready for operation in a few weeks. Orders are now being accepted for October delivery.

The availability of ample quantities of Allethrin at more economical price levels than have heretofore prevailed represents a profound alteration in the insecticidal supply picture and makes it necessary for all manufacturers of insecticide products in which Allethrin is a potential factor to re-examine their formulations — with consideration of both the new price structure and the most recent and authentic entomological information.

Three and a half years of intensive study on the entomological effect of Allethrin alone and in combinations with other materials have served to not only remove some of the initial illusions but have established the fact that if used properly and at economical costs, Allethrin is an extremely valuable supplement for pyrethrins. It also has been established that it is not a substitute for pyrethrins except in a narrow and carefully defined sense and that generalizations as to the relative effectiveness are impossible.

Allethrin can and will be used on a large scale in a great number of insecticides for the 1952-53 season. All such formulations will require special study and ample information will be available over the next few months from the U. S. I. laboratories and other equally authentic sources on which to base such decisions.

At the moment, space and time will permit only a few statements of general, if not universal, applicability:

1. Allethrin is not a synergised pyrethrum — it is an extremely useful chemical possessing some, but by no means all, of the virtues of natural pyrethrum.

2. Practically all claims and statements which have been made up to now regarding the proper use of Allethrin should be re-examined in the light of the latest available information.

3. Allethrin shows far less synergistic effect than pyrethrins. None of the currently available synergists increase the effectiveness of Allethrin to anything like the same extent that the best synergists, like piperonyl butoxide, increase the effectiveness of pyrethrins. As a result, more Allethrin must be used to accomplish the same results.

4. Many of the current claims of the effectiveness of present synergists on Allethrin have been demonstrated to have no foundation in fact.

Aerosols unquestionably represent the most promising field for Allethrin and its availability at reasonable cost provides the ideal opportunity for industry to step up the effectiveness of its insecticides without compromising with the competitive pressures toward less effective or less acceptable formulations.

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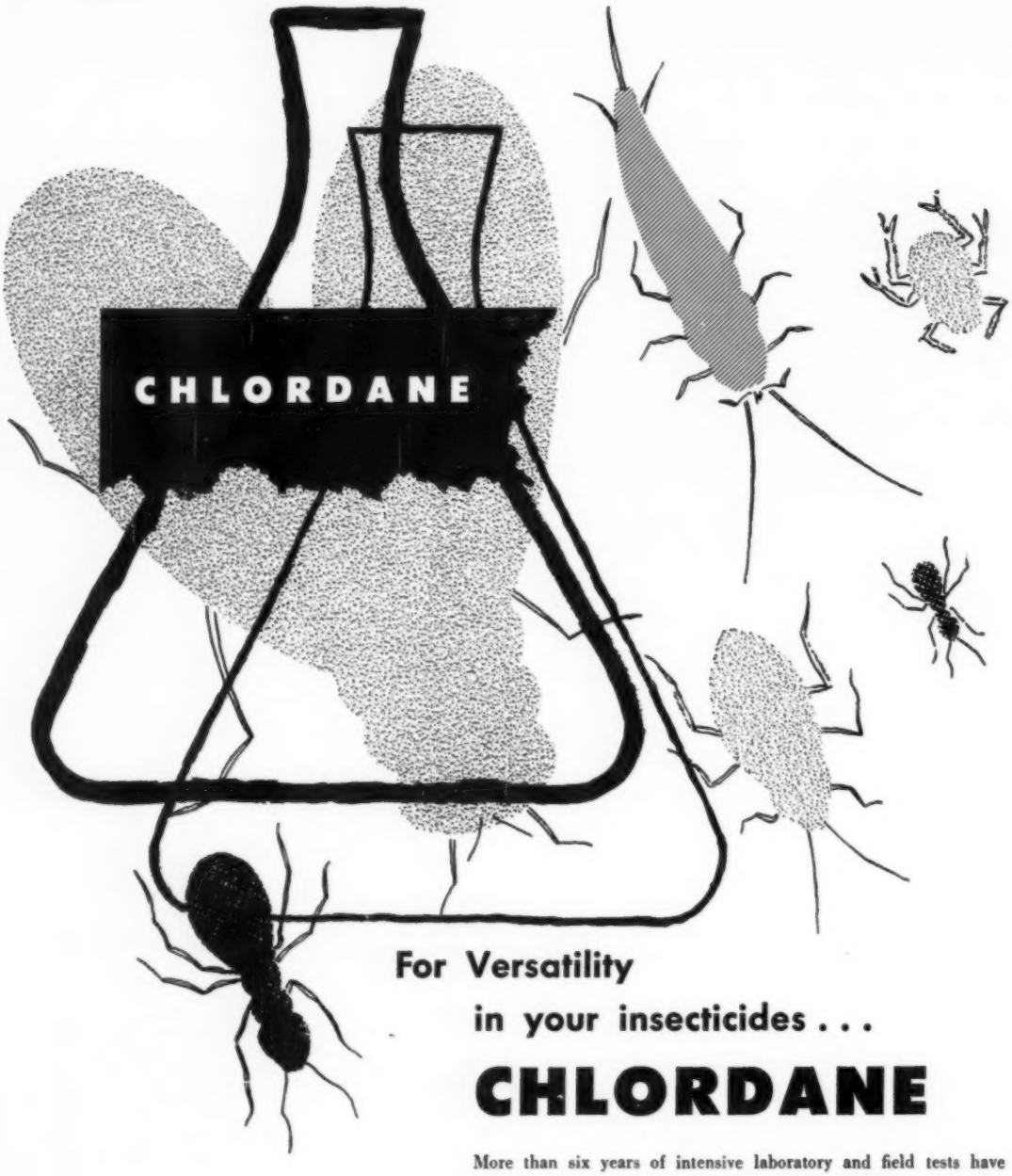

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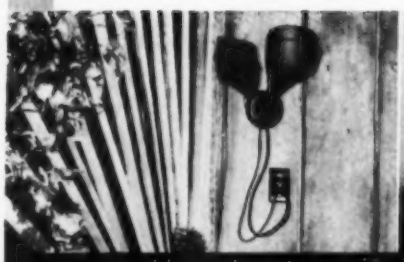

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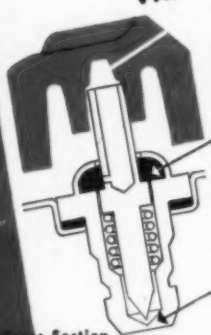

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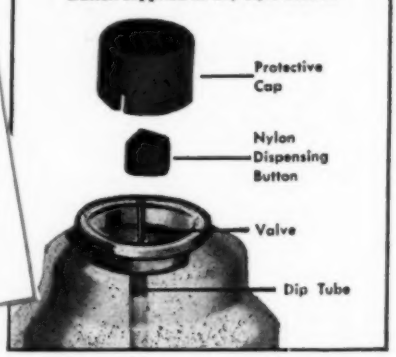

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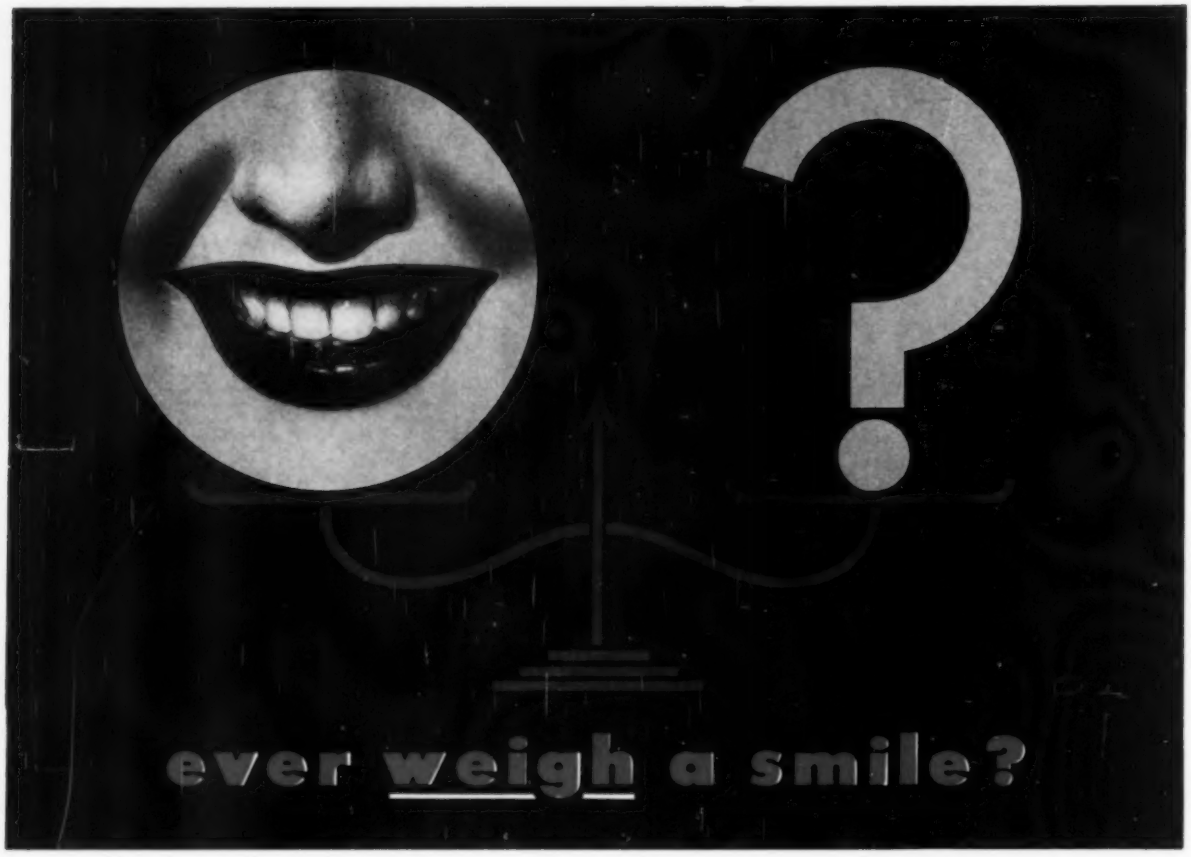

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THIS MANUAL COVERS THE BASIC "QUAT" STORY. It is centered on Onyx BTC, but the basic data on quaternary ammonium compounds is also included. Write for a copy.

4 FIELD-ACCEPTED ONYX QUATERNARIES

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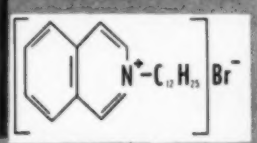

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Household Insecticides...
their role in public health

By Justin M. Andrews*
Communicable Disease Center, Public Health Service
Federal Security Agency, Atlanta, Georgia

IN 1948, I published a paper entitled "What's Happening to Malaria in the U. S. A.?"(1) In it I noted the general decline of malaria prevalence during the last seventy-five years, and especially the unprecedented, continuous recession since the mid-thirties when the most recent outbreak occurred. In the paper I tried to appraise the factors which had brought about the waning malariousness of the Nation. There appeared to be no deterioration of the host-parasite-vector system on which the existence and transmission of malaria depend. Americans were as susceptible as ever, indigenous strains of malaria parasite—even recently isolated ones—were still vigorously infective, and in spite of effective, large-scale antilarval programs, the transmitting species of mosquitoes were abundant in many portions of the Southeast where inadequate insectproofing of homes permitted easy access of vectors to the sleeping occupants.

Certain changes were noted, however, which probably had influenced malaria transmission adversely. The introduction of the synthetic antimalarial drugs, and improved therapy must have prevented some mosquito infection. The migration of rural populations in the South where malaria occurred to urban areas where it could not be acquired was presumed to be of even more importance. The progressive shift from cotton cultivation to cattle husbandry increased the availability of preferred bovine hosts for malaria mosquitoes at the very time that human blood meals were becoming less plentiful. Due credit was given to governmental and private programs of extensive area mosquito control which undoubtedly reduced or extinguished malaria morbidity in numerous localities. And last, but by no means least, the use of domestic insecticides had increased prodigiously since the last malaria eruption some twelve to fifteen years before.

Insecticide Use Significant

WHY did I consider the increased use of household insecticides to be of such significance? To explain this, it is necessary to review briefly the progressive refinements in malaria mosquito control since 1897 when Sir Ronald Ross discovered how malaria was transmitted. (2) At first he thought that it would be necessary to destroy all types of mosquitoes to control the disease, but when his Italian competitors proved within the year (3) that much if not all human malaria was spread by a single large group of mosquitoes known as anophelines, it became evident that malaria control need not involve the reduction of other than anopheline mosquitoes. In the early years of the century it was shown (4) that not all species of Anopheles in any given area were equally effective transmitters and that economical control required the discovery of the one or two culprit species against which measures should be directed, while the other species might be safely disregarded. This type of selective control was known as "species sanitation". (5)

During the late twenties and early thirties of this century, European malariologists were confronted with the anomalous and perplexing situation of a broad continental distribution of a single species of malaria-carrying mosquito, *Anopheles maculipennis*, whereas the occurrence of malaria was decidedly spotty. (6) It remained for an international triad—an American, an Italian, and a German—to discover that this species could be divided into a number of subspecies identifiable only by the appearance of its eggs. (7) Certain of these varieties fed readily on man, transmitted malaria, and their distribution coincided with that of the disease. The others fed preferentially on non-human hosts, and where they occurred there was no malaria. Thus the situation was rationalized and it became obvious that in some regions malaria mosquito control efforts should be conducted on a subspecies basis.

Shortly thereafter came the demonstration in South Africa (8) and Holland (5) that malaria morbidity decreased rapidly when the interiors of huts or houses were treated periodically with pyrethrum-containing sprays. This was confirmed in India (9) where its economy under tropical conditions was firmly established. Thus in many—not all—parts of the world the ultimate focus of attention in malaria control came to be fixed upon mosquitoes in houses. Because of their proximity to human blood meals and the greater probability of their acquiring or injecting malaria organisms into man these insects are of greater importance, statistically, than other members of the same genus,

* Paper presented before 38th midyear meeting C.S.M.A., Boston, June 10.

species, or subspecies which do not happen to be in houses. Thus it was shown that any method of excluding mosquitoes from homes or of killing them after they have entered strikes at the very heart of malaria transmission. That is why I believe that the mosquito proofing of houses or of sleeping individuals,[1] or the destruction of house-haunting mosquitoes manually, as LePrince showed in the Canal Zone construction days, (10) or chemically by insecticides is of the greatest importance in preventing the disease generally regarded as the number one hazard to global public health.

In spite of the fact that it took many years for malariologists to confirm the general truth of Chagas' contention, made in 1906, that malaria is a domiciliary disease acquired primarily from house-haunting anophelines, and that the way to combat it is to concentrate on their elimination, (11) the world has not been slow to accept and apply the demonstrated principle. Recent reviews (12,13) of the literature concerning the control of disease with insecticides, indicate that significant experiences—some very extensive—in preventing malaria by the use of insecticides have been published from no less than 32 countries or islands[2] in various parts of the world. Undoubtedly more such enterprises are under way though not yet reported. It is hoped that anopheline resistance to insecticides, evidence of which is steadily developing, will not interfere with the success of these projects.

DDT in Mosquito Control

NEVERTHELESS, primary dependence is placed on DDT for the eradication of *Aedes aegypti* from the Western Hemisphere. This formidable project was instigated in 1947 by the Directing Council of the Pan American Sanitary Organization as the ultimate protection against yellow fever; it is coordinated by the Pan American Sanitary Bureau. Two methods are in general use in South America. The first consists of applications of residual DDT in homes at about the same rate as is used for anopheline control; in fact, the procedure is used simultaneously against both types of mosquito whenever possible. The second involves the treatment of municipal water reservoirs (15) and domestic water storage containers (16) (frequently the principal breeding places of *Aedes aegypti*) with about one part per million of DDT once monthly or twice a year, a practice which must make our toxicologic friends shudder but which has not been attended by horrendous consequences thus far.

As of October 1951, *A. aegypti* had disappeared from Bolivia, Brazil, Costa Rica, Ecuador, Panama, Paraguay, and Uruguay. (17) As yet no coordinated effort to eliminate *Aedes aegypti* from the United States has been made though it is believed that this could be accomplished with relative ease and economy if the essential State and local health cooperation could be secured.

On the Island of St. Croix, V.I., after two years' application of residual DDT (200 mgms. per square foot), no *Aedes aegypti* could be found though before the spray program they were numerous. (19) The other and more important local vector of filariasis, *Culex quinquefasciatus*, was reduced approximately 50 percent in the houses, and the number of homes harboring this species was decreased by 57 percent. Similarly in British Guiana, it was shown that *Anopheles darlingi*, another transmitter of filariasis, could be eradicated by residual DDT whereas *Culex quinquefasciatus* in British Guiana as in St. Croix was more resistant to this insecticide though the reduction resulting from its use was believed to be great enough to prevent transmission. (18)

Among the difficulties of judging the effects of insecticiding upon the incidence of encephalitis are 1) the frequent occurence of asymptomatic or of mild and unrecognized infections and 2) the availability of prophylactic biologics which most certainly would be used in an outbreak of viral encephalitis along with anti-mosquito measures thus making it possible to gauge the effectiveness of either procedure as shown by the following account. The American troops on Okinawa in 1945 were vaccinated against Japanese B encephalitis which was epidemic that year, but intensive DDT airplane spray and residual programs were also carried on at the same time. During the two-months outbreak, 77 cases with 19 deaths were reported among the natives, 37 cases with two deaths among military personnel. (22) Thus the information is inconclusive. It was believed, however, that an extension of this same outbreak on the island of Heanza was reduced by insecticidal means as the case incidence fell sharply after mosquito control measures were undertaken. (23).

Murine typhus fever is a rickettsial disease of domestic rats which may be transmitted to man by the oriental rat flea, *Xenopsylla cheopis*. This disease is not often fatal, its most serious aspect being the long period of physical ineffectiveness, two or three months, associated with it. (24) The use of 10% DDT in dust distributed along rat runways and blown into rat burrows was first shown to be effective against the oriental rat flea in 1944. (25). It was presumed that such a practice, extensively applied, would interrupt rat-to-rat and rat-to-man transmission of the infection. In 1945 the cooperative murine typhus control program, based on this principle was initiated by the Public Health Service and the nine Southeastern States from which most of the typhus cases of the Nation are reported. The effectiveness of this program is shown by contrasting the 423 cases of human typhus reported for 1951 with the 5338 for 1944.

At the same time that this control program was organized, a field

[1] There is little doubt that most malaria is transmitted to man while he sleeps. Anopheline mosquitoes as a group are nocturnal, timid, quiet, and painless biters. As more people are at home and asleep than elsewhere during most of the hours of darkness, it follows that the chances of successful anopheline feeding on man—and *pari passu* of malaria transmission — are greatest while he sleeps.

[2] Argentina, Bolivia, Brazil, British Guiana, Ceylon, Chile, Cyprus, Ecuador, Elba, Greece, India, Italy, Madagascar, Malaya, Mauritius, Mexico, Netherlands, New Guinea, New Hebrides, Palestine, Panama, Peru, Portugal, Puerto Rico, Sardinia, Spain, Tobago, Trinidad, Union of South Africa, United States of America, Venezuela, Yugoslavia.

study was set up in south Georgia to determine more critically the effectiveness of DDT dusting as a murine typhus fever control method. (26) Rat runs in and near buildings in two adjoining counties were dusted with five applications of DDT from April 1946 through September 1947; a third county was not treated. For the two years subsequent to the cessation of dusting the incidence of both human and rat typhus infection was sharply

Table 1. Current World Status of Insecticide-Resistant Insects of Public Health Importance*

	Sweden	Denmark	England	Italy	Sardinia	Greece	Turkey	Egypt	Nigeria	Uganda	India	Ceylon	New South Wales, Australia	Korea	Japan	Hawaii	Canada	United States	Levantine States	Peru	Argentina	Brazil	Venezuela	Trinidad	Panama	Costa Rica	Mexico	Puerto Rico
Culex pipiens				P		P																						
C. quinquefasciatus																		P?					P					
C. tarsalis																		P										
Aedes sollicitans																		Pbp										
A. taeniorhynchus																		Pbp										
A. dorsalis																		P										
A. nigromaculis																		P										
A. aegypti																									O			
Anopheles sacharovi						p																						
A. maculipennis						p																						
A. superpictus							pb																					
A. gambiae									B	B																		
A. darlingi																					B	B						
A. quadrimaculatus																		PB										
A. claviger					N																							
A. melas									B																			
A. aquasalis																								O				
A. albimanus																									O	O		O
A. pseudopunctipennis																											O	
A. aztecus																											O	
Musca domestica	N	P	P	P	Pb	P							P	e	o	P	Pb	p	p	P	p	p	p	p	p		p	p
M. vicina								P			O	O																
M. nebulo											O	O																
Phlebotomus pappatasii						p																						
P. verrucarum																				O								
Psychoda alternata																		P										
Cimex lectularis															P													
Pulex irritans																				p								
Pediculus h. corporis								P						P														
Triatoma sp.																				N								
Blatella germanica																		P										

Legend:
N=Natural Resistance;
P=Physiologic Resistance, the ability through biochemical processes to withstand a toxicant after it has entered the body;
B=Behavioristic Resistance, the ability through protective habits of behavior to avoid injurious contact with a toxicant;
O=Not Resistant.
Capital letters=Confirmed by experimentation;
Lower case=Based on field observations only.

*From information contained in the following references:
1) Hess, Archie D. Significance of Insecticide Resistance in Vector Control Programs, Am. J. Trop. Med. & Hyg., In press.
2) Personal communications to Dr. Hess.

reduced while no change in incidence was evident in the undusted county. The rate of rat infestation by the oriental rat flea was also substantially reduced in the two dusted counties for one year after the last application of DDT; however, three years afterwards, in 1949, the rate was approaching the pre-dusting level.

For many years a major role in the transmission of enteric diseases was ascribed to flies but without adequate epidemiologic proof. It was not until the advent of DDT that means became available to determine their actual importance as disseminators of the agents of diarrhea and dysentery, diseases which contribute substantially to the post-natal and infant death rate. Studies carried out in southeast Texas (27) in 1946 and 1947 established with reasonable certainty that in areas of high enteric morbidity, Shigella incidence, and fly density, significant reductions in disease transmission may be effected by control of domestic flies. On the basis of this work a number of modest projects designed to demonstrate the prevention of fly-borne diarrhea were sponsored by the Public Health Service and operated through State and local health departments. (28) Because fly control was a relative newcomer to the field of insect vector control, available measures could be applied only in reasonably compact communities. They included the use of insecticides (DDT) against both the larvae and adults, the elimination of fly-breeding areas, and general improvement in environmental sanitation. Great reliance was placed on chemical control and the first season there were dramatic reductions in fly populations. However, during the second and subsequent seasons, resistance to DDT was evidenced by the flies and to date, in spite of synergists and the use of other insecticides, it is obvious that fly control must still rely primarily on improved sanitation.

From the above it is evident that especially since 1940 insecticides have played a role of unprecedented importance in improving the public health of this and many other nations by reducing the prevalence of arthropod-borne disease. What is the outlook for the future? To me, it appears ominously challenging both to investigators of insect-borne disease and to manufacturers of insecticidal products.

DDT was first used extensively in the field—including Italy (29)—in 1944. Three years later we received our first intimation from the same country that the "Killer of Killers" (30) carried the seeds of its own vulnerability, namely, that certain insects, in this case house flies and mosquitoes (*Culex pipiens*), could become refractory to the lethal effectiveness of this compound. (31) This was by no means a new phenomenon in the history of insecticidal technology, but its importance in public health had to be measured against the almost boundless possibilities of disease and pest insect control suggested by early experience with this new type of insecticide. Since 1947, a very substantial literature has accumulated on the subject of insect resistance to vector and pest insecticides.

This has been summarized and analyzed recently by Dr. Archie D. Hess of our Technical Development Branch in Savannah, Georgia. (32) He lists references concerning resistance against modern insecticides reported from 28 countries or islands and involving 31 species of insects of vectoral or pestiferous significance. These relationships are shown in Table 1. From this it is apparent that the occurrence of effective counteraction to public health insecticides is widespread both geographically and entomologically.

Resistance Summarized

FROM his review, to which the reader is referred for details and bibliography, Dr. Hess derives the following generalizations regarding these phenomena.

1. Different species of mosquitoes and flies vary in their natural susceptibility to insecticides.

2. In order of increasing importance, DDT resistance in house flies may be due to variations in morphology, behavior, or physiology. Natual differences or induced changes in the contact structures of resistant versus susceptible flies have been reported, but these are uncommon. Adaptive behavior, i.e., the tendency of house flies and mosquitoes to rest more frequently on untreated than on treated surfaces, has been noted frequently. The most important type of resistance, however, is that resulting from physiologic adjustments of various kinds, some of which are assuredly genic.

3. Resistance to insecticides is more apt to occur following—

   a) intensive or extensive applications than after casual spot treatments,
   b) residual applications than after space sprays, and
   c) the simultaneous use of a compound against adult and larval stages of an insect than after its use against either one.

4. The rate at which insecticide resistance develops under field conditions varies considerably even within the same species of insect. For example, house flies have shown DDT resistance as early as the first season of use and as late as the sixth but in most situations during the second or third year of intensive use. Field strains of flies resistant to two or more chlorinated hydrocarbons already possess or promptly develop resistance to other compounds of this type. Resistant mosquitoes have been observed after one season's exposure, but in general it seems that from three to six years of extensive insecticiding are necessary before resistance appears.

5. The picture of cross-resistance to insecticides is not entirely consistent thus far. Methoxychlor-resistant flies are susceptible to DDT but DDT-adapted flies are resistant to methoxychlor. In general, DDT-resistant house flies can also withstand the action of closely related chlorinated hydrocarbons; they rapidly become resistant to other members of the group when exposed. Most strains appear to be sensitive to unrelated insecticides such as pyrethrins, allethrin, and parathion though occasional exceptions are reported.

6. Experience with the reversion of house flies from DDT-resistance to DDT-susceptibility has been variable. Field resistant strains reared intra-

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A method for determining pressure and consistency of

Aerosol Coatings

By R. W. Morrow and F. S. Palmer*
E. I. DuPont de Nemours and Co.

THE spraying characteristics of an aersol product are influenced by several factors, among which valve design, propellent pressure and viscosity are of prime importance. The effects that can be produced by modification of the valve are numerous and have had much to do with the diversification and expansion of the aerosol industry. The pressure and viscosity also have a marked effect on performance and must be taken into account in the development of aerosol formulas.

With materials of low viscosity and with suitable type of valve, choice of pressure is usually an adequate means of controlling the performance of the aerosol package. On the other hand, materials of high viscosity, such as aerosol coating compositions, require regulation of both pressure and viscosity in order that the following important conditions be fulfilled:

1. The spray produced must be sufficiently fine to insure deposition of a uniform coating while the formation of "permanently" air-borne droplets is held to a minimum.

2. The viscosity of the mixture in the package must be low enough to permit atomization at pressures permissible for the container, and yet, when the propellent evaporates the residuum must be sufficiently viscous to prevent sagging of the coatting during the early stages of drying.

In the development of aerosol coating formulas, it is highly desirable to be able to relate the performance of experimental compositions to changes that are made in pressure and viscosity and, in turn, to determine how those properties vary with changes in the amount and type of thinner and propellent used. The determination of pressure on aerosol products presents no great problem but the usual methods for measuring consistency of paints and lacquers are not directly applicable to aerosol products of this type since they are designed for use at atmospheric pressure. The apparatus described below was developed specifically for use in measuring the pressure and consistency of coating

* Paper presented before 38th Mid-Year meeting, C.S.M.A., Boston, June 10, 1952.

FIGURE 1

PRESSURE-CONSISTENCY MEASURING APPARATUS

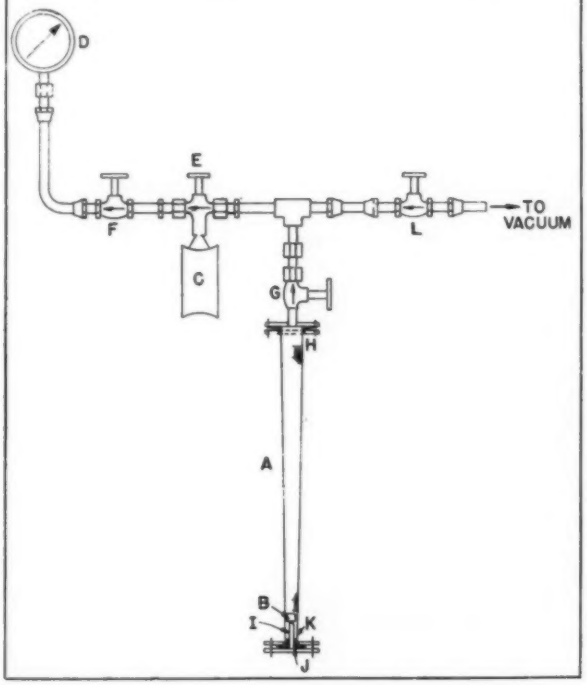
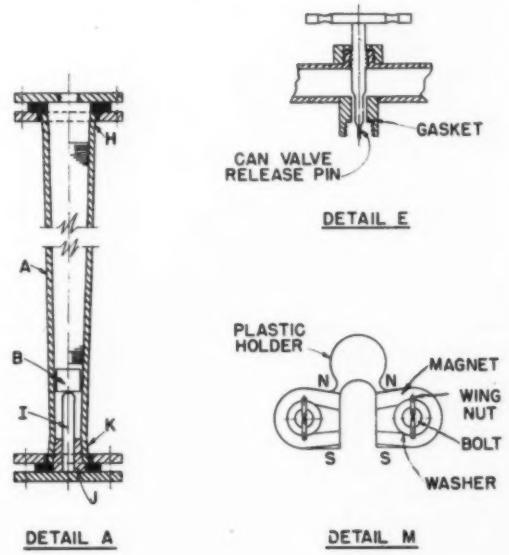


FIGURE 2



compositions packaged in standard aerosol containers.

Description of Apparatus

THE consistometer is essentially a falling body type of viscometer in which the conventional sphere is replaced by a cylinder. It is further modified to permit measurement of consistency of liquids under pressure. The design has been kept as simple as possible in the interest of convenience and ease of operation. While the simplification entails sacrifice of some features required for making very precise measurements of viscosity, the instrument can be used quite satisfactorily for determining the relative consistency of aerosol coating compositions. By making certain refinements and calibrating the instrument with liquids of known viscosity, it can be used for the determination of absolute viscosity.

The details of construction of the consistometer are shown in Figures 1 and 2. The following are the essential parts of the apparatus. All references are to Figure 1 unless otherwise specified.

1. Consistometer Tube (See A, Figure 1 and Detail A, Figure 2).

This is a standard No. 4 taper-bore rotameter tube with three equally-spaced beads running the length of the tube. It is fitted at either end with "Pyrex" brand glass pipe flanges (H-¾" and K-½") carrying suitable flange fittings. The upper flange plate H is drilled and tapped to take a ¼" needle valve.

The wider bore of the tube at its top permits the falling cylinder B to traverse viscous mixtures sufficiently rapidly to avoid prolonging the fall times inordinately. The beads on the tube wall improve the visibility of the cylinder in pigmented mixtures without serious restriction of the annulus between the cylinder and tube wall.

The consistometer tube is fitted at the small end with a rubber stopper carrying a 4-inch glass rod I. This rod serves as a stop for the falling cylinder, preventing it from wedging in the narrow end of the tube.

2. Falling cylinder B.

The falling body used in this consistometer is a magnetic steel cylinder, approximately 0.50" long and 0.50" in diameter and weighing 12.9 grams. The dimensions of the cylinder are not critical since it is only necessary that it fall at a reasonable and reproducible rate.

The cylinder is used instead of a sphere because it is more readily visible in pigmented mixtures.

3. Pressure Gauge D.

A pressure-vacuum gauge D covering a pressure range up to at least 100 psi.

4. Fitting E for Aerosol Can.

This is a special fitting designed for attaching an aerosol can C equipped with a threaded valve. It is made by cutting away the body of a ¼-inch needle valve opposite the stem and silver soldering the dome of a threaded spray head onto the valve as shown in Detail E, Figure 2. The valve stem is modified by soldering a pin of suitable length (ca. 6 mm.) to the point of the needle to serve as a release pin for the can valve.

The other parts of the apparatus are made up with standard copper tubing and brass fittings as shown in Figure 1. Standard ⅛" or ¼" needle valves may be used at F, G and L. The magnet used for lifting the steel cylinder is shown in Detail M, Figure 2.

Operation of Apparatus

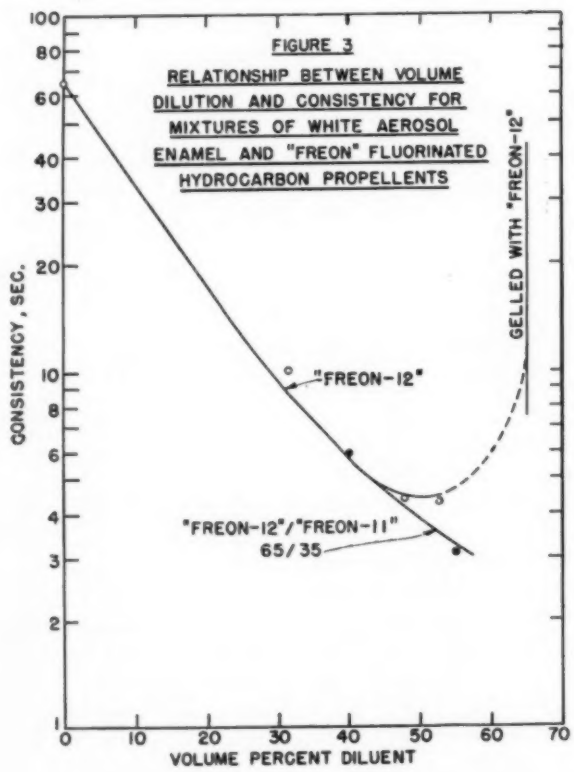
Measurement of Pressure

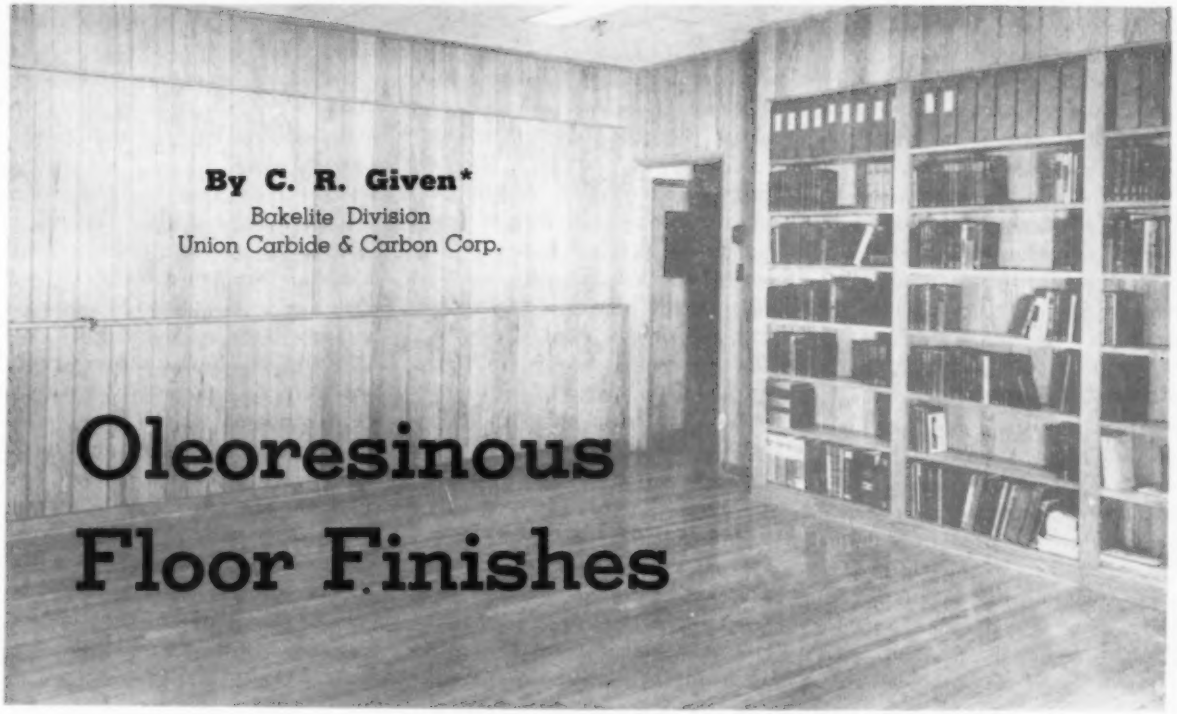
FOR measuring pressure on the aerosol package the apparatus is assembled with the can mounted at E, Figure 1 in an inverted position so that when the can valve is opened a vapor transfer is made through the standpipe in the can. It is also desirable to have the consistometer tube in an inverted position during this step to facilitate manipulation of the apparatus for the next step.

With the aerosol can attached at E and the can valve and valve G closed, the lines and gauge D are evacuated by pumping through valve L, preferably to a pressure of 1 mm. or lower. The valve L is then closed

(*Turn to Page* 169)

FIGURE 3
RELATIONSHIP BETWEEN VOLUME DILUTION AND CONSISTENCY FOR MIXTURES OF WHITE AEROSOL ENAMEL AND "FREON" FLUORINATED HYDROCARBON PROPELLENTS





By C. R. Given*
Bakelite Division
Union Carbide & Carbon Corp.

Oleoresinous Floor Finishes

PRIOR to the advent of oleoresinous finishes, floors were usually given repeated applications of hot linseed oil and each application was buffed by hand. Then when the surface was saturated with oil, it was waxed and maintained by waxing at suitable intervals. The numerous applications were necessary since unbodied drying oils, such as linseed, penetrate wood relatively deeply. However, the finish was correspondingly durable, did not show scratches, and was readily patched at places of maximum wear without refinishing the entire floor. The pure linseed-oil finish dried hard enough to be reasonably free from tackiness and provided a floor surface that was easily kept clean by dry mopping. In time the finish darkened; partly because of the change in color of the wood itself and partly because drying oils and varnishes become discolored with decomposition products as they age. Since the finish saturated a substantial layer of the wood, this darkening effect was more serious than it is with a superficial coating of varnish.

In its history of use, however, the drying-oil finish was increasingly adulterated with non-drying mineral oils until at the present time floor oils have become inferior products often containing no drying oil at all. The mineral oils prevent proper hardening of linseed oil, thereby keeping the finish tacky, so that it clings to dirt. Thus, the finish ultimately becomes unsanitary and dark in color, even black. Largely because of the adulteration of floor oils, the old finish fell into disrepute, and for a long time has been replaced by varnish, shellac, shellac and varnish, or shellac and wax finish. There is now, however, a growing trend back to application methods used with the old oil finish, except that in place of linseed oil, specially designed products known as floor seals are being used because they are obtainable in satisfactory quality and are more economical in labor of application than unbodied linseed oil.

The varnish and shellac finishes form coatings of substantial thickness over the surface of the wood, in contrast to oil and seal finishes, which penetrate into and are embedded in the surface of the wood without forming a definite coating over it. When a top coating wears through in a traffic channel, it can rarely be patched without showing the edge of the worn place; and even if the whole floor is recoated there is usually a difference in film thickness and color between the worn area and the areas where no wear took place. For fully satisfactory refinishing, the old coat must be removed completely either by sanding or scraping, or by use of suitable liquid removers. The necessity of removal can be avoided by taking care to renew the coatings before traffic channels wear through, but with varnish finishes particularly the color gradually darkens as thicker layers of old varnish accumulate. Shellac has much less tendency to darken with age than varnish, but, on the other hand, water causes it to turn white if it remains on the shellac for very long before being wiped off thoroughly.

Modern Floor Seals

MODERN floor seals may be regarded as thin varnishes or bodied drying oils prepared to penetrate less deeply into the wood than unbodied drying oils. Fewer applications are required, yet they penetrate more deeply than ordinary floor varnishes so that a surface layer of the

* Paper presented at 38th mid-year meeting, C.S.M.A., Boston, June 10.

wood can be saturated and the finish can be embedded in the wood rather than coated over it.

In the above statements about floor finishes, prepared in 1938, we see all of the same problems which are present today. It is interesting to note, even then, there was appreciation of the basic necessity of floor seals, whether a traffic coating of wax is to be the final finish, or whether the modern gym finishing varnish will be the wearing surface.

Resin-Oil Varnishes

TO the user there are many kinds and brands of varnishes, including those intended for use on floors. Varnishes are complex compositions. Briefly, they are made from drying oils, resins, solvents and driers. The combination of heat-processed resin and oil, after it oxidizes in the applied finish, furnishes the final protective surface. The solvents and driers are a means to an end. Without solvents or thinners the coating would be too thick and could not be applied or spread out evenly. Without driers, the varnish would not dry or oxidize for a long period of time. A change in the ratio of resin-to-oil, and a choice of various resins to be used with various oils, makes it possible to produce coatings that differ widely in performance. Some finishes can be tough and elastic, while others may be very hard and brittle.

Varnishes are seldom made by merely blending the ingredients. The resin and oil have to be cooked or heat-treated. A simple varnish can be made by heating the resin and oil at temperatures of 450 deg. F., or even higher. As the heat processing of the resin and oil progresses, the hot varnish solids become thicker in consistency due to polymerization. Finally an optimum point in the processing is reached at which the heat-treatment of the varnish has reached a satisfactory degree. At this time the solvents are carefully added and, finally, before use, driers are incorporated. Heat-treatment of varnish must be controlled carefully within predetermined limits. An underprocessed varnish will be too thin and may gas check or craze after application. An overcooked varnish may be too low in solids for proper filling of the wood, may wrinkle badly, gel in storage, or could even go so far as to gel at the time of cooking, and no longer be capable of solution in the solvents. For floor sealers of the penetrating type, a moderately processed varnish is advantageous since it permits greater penetration into the wood. The more a varnish is bodied, or heat treated, the more tendency it will have to lay on the applied surface, rather than soak into the wood pores.

Varnish making is a technical art. Untold numbers of formulas can be developed. For specific high quality use, however, the number of such formulations is relatively small.

Selection of Ingredients

AN old-time painter recognized a durable finish by its slow-drying character. If a varnish dried quickly it was sure to fail before long and particularly if used outdoors. At that time, the drying oil in the finish was the durable or lasting factor. Fast-dry meant little oil, with lots of resin or natural resins. With the advent of tung oil, or Chinawood oil, and present-day synthetic resins, the old idea that a durable finish had to dry slowly no longer applied. Within limits, increased proportions of 100 per cent phenolic resin result in better durability, wear and chemical resistance.

About 1928 the first oil-soluble, 100 per cent phenolic resin was introduced for varnish making. To this day it continues as one of the most popular products. Since 1928 numerous resins made from substituted phenols, reacted with formaldehyde, have been developed. Time and demand permitting, other improved resins will be produced in the future. Superior quality in floor varnishes and sealers has been made possible by these phenolic resins. Still as one slogan expresses it so well, "Expect more and get more."

In floor finishes, ingredients are selected to obtain specific end results. We look for ability to protect, long wear, pleasing appearance, and ease of application.

The oil should be principally tung oil or Chinawood oil, a quality oil now produced in our Southern States, as well as in foreign countries. Originally, it came exclusively from China. This oil is chosen because it dries quickly to a tough, hard, yet elastic film, and produces varnishes with good resistance to most household chemicals.

Solvents, selected for their effects, should be capable of giving a clear, stable solution of the resin-oil complex. They should possess the desired rate of evaporation and be easy to apply. Little if any strong solvents should be used, because they can harm the undercoats. Solvent odor must not be objectionable, nor its vapor of an irritating nature. Low flash-point solvents are a fire hazard. For floor finishes, the principal solvent is mineral or petroleum spirits. To promote penetration of wood sealers, solvents with a narrow boiling point range should be selected. This allows a longer time for penetration without slowing the ultimate dry.

On a weight basis, driers are a minor, but very important ingredient. They are organo-metallic compounds based chiefly on cobalt, manganese and lead salts, which are generally used in combination. Drier content should be held to a minimum.

Resins and the ratio of resin to oil have been considered after the other ingredients because of their great importance in the varnish. This combination gives the final wearing and protective surface. When low-grade resins are used, the oil has to carry the burden of durability and successful use. High-grade resins add to and improve the quality of a good oil.

The 100 per cent phenol-formaldehyde resin-varnishes offer the highest resistance to water, soap, solvents, waxes, and household chemicals. While the scrubbing of wooden floors is not recommended, it will happen so that soap resistance is still a desirable property. Water, solvent and wax resistance are a necessity. The 100 per cent phenolic resin imparts to a varnish flexibility, durable life and increased wear resistance. Modified resin-esters are combined with phenolic resins to improve adhesion and lower cost. Their use, however, reduces wear and chemical resistance.

To illustrate the value of a

superior resin, three varnishes were tested in a short formula which contained a minimum of oil, and which required the resin to carry the load of durability. One varnish was made with a 100 per cent phenolic resin, whereas the other two varnishes contained resin-esters as well as a 100 per cent phenolic resin. In this test, panels of oak flooring were hung on the inside of a sunny window, face out, for a period of four years. The 100 per cent phenolic resin coating shows no checking, whereas the other two finishes have checked and no longer give satisfactory protection or appearance. The superior resin has overcome the lack of the correct amount of oil in the formula.

The resin-to-oil ratio is important in varnish formulation. The trade refers to this ratio as the number of gallons of oil to each 100 pounds of resin used in the formula. A 25-gallon oil length means 25 gallons of oil to 100 pounds of resin. A 33-gallon varnish indicates 100 pounds of resin to 33 gallons of oil. To illustrate the influence of resin-oil ratios, good wearing properties are obtained with oil lengths around 30-gallons. Hard, fast-drying varnishes will run lower in oil, 18 to 25 gallons. For flexible, exterior spar varnishes, the oil length is usually 33-gallon or longer. Short oil, 100 per cent phenolic varnishes, about 12 gallons long are the most resistant to chemicals. In general, longer oil varnishes have better penetration than those of shorter length. Some compromise in the final desired properties of a varnish must be made to give a satisfactory balance in performance.

Floor Finish Requirements

THERE are at least four real objectives in the treatment of wooden floors, some of which are interrelated. They include: Wood preservation and service life; appearance; surface characteristics, and ease of maintenance or upkeep.

Floor finishes must assist in preventing wear of wood. With the hard woods, wear is not so much of a problem. Finishes must protect the wood against harmful contact with grime dirt, and such household items such as water, soaps, greases, some solvents, or other commonly used materials. This protection must endure over as long a period as possible. Important factors in providing this protection are the pentrating and sealing properties of the varnish.

The appearance of a floor is important. The beauty of home furnishings may be greatly enhanced by atrractive floors. This question of appearance being subjective requires variations to meet the tastes of different individuals. Some prefer a high gloss, while others want a satin or soft finish. Another role of floor finishes may be the reflectance of light as an aid to illumination.

Color selection also varies with individual taste. A floor treatment of any kind will change the appearance of the original wood. Even a colorless liquid, which penetrates the wood to any extent, causes a darkening change in appearance. Wood will discolor through the action of light, heat and age, regardless of any transparent surface treatment. The color effect of a freshly sanded floor cannot be maintained nor should it be expected to do so.

Some of the surface characteristics are related to the functions of preservation and protection. In general, floor finishes should not be too slippery and should not mar, scratch, or flake off.

Wooden floors, correctly sealed and filled, reduce the effort required for maintenance and cleaning. Frequent resanding and complete refinishing is to be avoided. Finishes must be of such quality that worn spots in heavy traffic can be refinished and still give a uniform appearance.

There are two general types of varnishes, the sealer and the full finish. The most durable by far is the penetrating sealer. Regardless of the ultimate finish to be applied, whether wax, or a full finish varnish and wax, it is essential to have the sealer penetrate the wood and assist in filling the pores. A degree of penetration makes the sealer an integral part of the wood, so that after application it will wear away only as the wood itself wears away. Filling the pores prevents dirt penetration, increases wear and makes cleaning efficient.

By nature, the first seal coating should be a thin varnish, intended to promote penetration into the wood itself. The varnish is thinned by the use of solvent, and also through the use of smaller molecular size varnish solids. The degree of polymerization or cook of the resin-oil mixture in the varnish, and not the excessive use of solvents, determines the size of the solids.

Subsequent seal coats merely build upon the original seal, since they do not penetrate deeply into the wood, but tend to fill the pores.

Some professional floor finishers wet-burnish the sealer in small areas, later removing any surface excess with a squeegee, and then progressing to a new area. Otherwise, burnishing or wire-wooling of the dried film is intended to remove excess wood fibers that may rise above the normal surface.

Sealers should not be excessively low in solid content, or nonvolatile. In open grain wood, particularly, where many of the larger pores are to be filled, a varnish with a higher solids content should be applied by squeegee to minimize the number of coats.

There are two general finishing systems. The heavy-duty system calls for a series of seal coats, final burnishing and then waxing. Should it become necessary to touch up worn spots in heavy traffic lanes, this can be done economically and with the least noticeable difference in appearance between the original finish and the touched up spot. In this system the wood and protective medium wear more uniformly.

The second finishing system is commonly used in gymnasiums, or on floors subjected to light traffic. Here, after the floor has been sealed, the wearing surface is varnished with a full surface finish. The quality of the varnish is very important, requiring toughness, resilience, and long wear, freedom from slip and resistance to rubber burns.

In applying a finish to a floor (3) it is imperative that the instructions given by the manufacturer be followed carefully. Through tests and expe-

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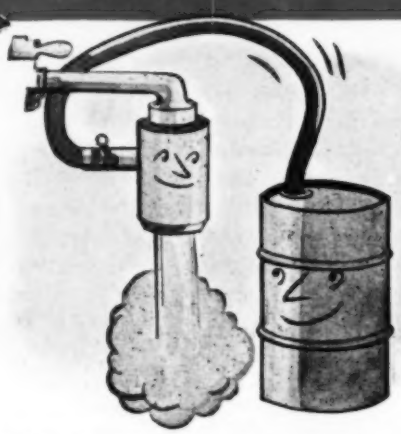

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rience, he knows: How to prepare the floor for finishing; how the finish should be applied; how many coats are required; how long each coat should be allowed to dry; how a stained effect can be best obtained; how the finished floor should be cleaned; and how and when the floor should be refinished.

Correct preparation of the floor for coating is essential if the best is to be obtained from any finishing system. After sanding in the right manner, all loose particles and dust must be removed. The floor should be dry and free of wax and oil.

Atmospheric conditions also contribute to the quality of the job. Room temperature should not be below 50 deg. F., nor should the humidity be excessively high. In applying full finish varnishes, strong drafts, and the products of combustion of illuminating gas should be avoided as these may cause wrinkling or dulling of the film. Naturally applicators should be clean and free from loose particles.

Sealers are usually applied by mop, special applicators or a squeegee. Two or three coats are required with light wire wooling, or steel wool buffing between coats. It cannot be repeated too often, that the pores should be filled.

With open grain wood a filler may be called for to help fill the larger pores after a penetrating seal coat of varnish has been applied(4). Such fillers should be removed carefully from the top surface of the floor or a cloudy, dirty appearance will result. Since fillers, even in the pores, do not offer the best in wear or chemical resistance, as compared with the varnish, subsequent varnish seal coats are mandatory.

A full finish varnish, or a sealer at 50 per cent solids may be applied by mop, or an applicator. Varnishes with a higher solid content will generally require application by brushing. Two or three coats are usually applied. The full finish varnish should be used over a varnish sealer to obtain satisfactory results. Best adhesion between coats in a multiple coat system is obtained by applying each succeeding coat as soon as possible after the previous coat has been put down. Allowing one coat to dry for several days or weeks prior to applying the second coat may ultimately cause flaking or peeling at the interface.

Before a finished floor of the heavy-duty type is put into service, the finish should be dry enough to take wax. Floors can be apparently dry and yet not be hardened all the way through so that if waxed in that condition, the finish may become soft, tacky, and pick up dirt. Such a tackiness can continue for days before the finish dries.

At least one coat of wax, with polishing, should be given the finished floor before subjecting it to traffic. Paste of petroleum solvent type waxes should be used for this final treatment.

Specifications

VARNISHES may be purchased under brand names, by descriptive specifications, or from lists of approved products issued by various associations and government agencies. Many groups have their own specifications for protective coatings. These include the Federal Government, the Armed Services, state, county, and municipalities, as well as private companies, corporations and institutions and trade associations. The Maple Flooring Manufacturers Association, for example, has just issued a specification describing the requirements of a finish suitable for maple floors.

Specifications are based on composition, performance, or both. Composition specifications state what ingredients and how much of each should be used. Sometimes they state how the varnish should be made. People who write this type of specification must assume the responsibility for the results obtained. Performance tests are designed to indicate through laboratory evaluation what may be expected in actual use. For example, some type of flexibility tests will assist in determining the life of a finish. After both field and laboratory tests have been run with satisfaction, approved materials, by manufacturer's name, may be included in an approved list of products.

Various items in a specification call for numerous properties and different tests. These are generally of a physical or a quality nature. Physical tests may include tests of appearance, foreign matter, non-volatile or solids content, viscosity, color, odor, flash point, drying speed, and skinning. Quality tests might include various chemical resistance tests (water, alkali, acid, solvent, grease, wax, etc.), flexibility tests of various kinds, abrasion resistance, and hardness tests, as well as a check on recoatability. Every test called for should have a specific reason. Also in all fairness, test procedures and requirements should be set forth in a clear and precise manner. A great deal could be said regarding almost any one type of test. Years have been spent by groups of technicians in trying to arrive at satisfactory procedure for each of these tests. This type of co-operative effort continues through the activities of the American Society for Testing Materials and the various Paint and Varnish Production Clubs.

Contemporary Finishes

MANY floor finishes are on the market, or in the development and test stages which are not of the oleoresinous or varnish type. Experience has shown that every type will find its level of use as dictated by performance, properties and price.

Shellac has been used successfully for a long period of time and will continue in use. It dries very quickly and has good color. With considerable age, there is some discoloration. Aging also reduces its toughness, makes it susceptible to flaking. Being thermoplastic, it does not resist the so-called rubber burns of gymnasiums. Water spotting, its chief weakness, occurs if the water is not removed quickly.

Alkyds (generally a reaction product of phthalic anhydride, glycerine and fatty acids of oils) give finishes of good color. Alkyd finishes have a rapid surface dry. Unless they are modified, the final through-dry is usually slower than desired. There seems to be more chance of dirt penetration into the finish than is the case with phenolic varnishes. Mar resistance and wood penetration are no better, if as good as the phenolics.

Styrenated alkyds have come

(Turn to Page 165)

Mr. Barrett, at right in photo at extreme left, demonstrates a floor wax on one of seven different types of floor coverings on the ground floor showroom. Center: exterior view of Barrett headquarters at 1908 Walnut St., Philadelphia where the firm occupies four floors and basement. Photo at right shows cage for carrying merchandise during filling of orders. There are several of these on each floor. When filled they are taken to shipping room where they are unloaded and merchandise segregated for shipment.

Success formula:

All Salesmen Own Bosses...

at the Sanitary Supply firm of Howard J. Barrett, Philadelphia

ONE of the oldest and most aggressive sanitary supply firms in Philadelphia is that of Howard J. Barrett at 1908 Walnut St. In the 23 years that he has been in business, he has tried and tested many ideas that have gone a long way in establishing this enterprise as one of the leading in the area.

"I was never content to conduct my business on an every day basis," explains Mr. Barrett, "with the attitude of doing business as it normally developed. Instead, I would examine every phase of our operations to see where improvements could be made and through the years have been able to make many changes that have benefited us."

As an example, Barrett points to his relationship with his sales-force. Having nine salesmen, he feels that they are one of the main stays of his business. As his firm is seen through the eyes of his salesmen, he makes certain that his salesmen are assets to his company as well as to themselves. And there is nothing better than a satisfied salesman to promote the sanitary supply business.

"We want our salesmen to stay with us as long as possible," says Mr. Barrett, "because the longer they remain, the more valuable they are to us and the better they can sell for themselves. Every salesman on our force represents an investment of time and effort on our part, and we want to keep them as long as possible. And in our efforts to keep them pleasantly and profitably employed, we have worked out a most satisfactory remuneration plan."

In an effort to keep his salesmen on the job, Barrett checked the many reasons why a sanitary supply firm salesman would leave it in the first place. It boiled down to two reasons. First, salesman leave to accept a competitive position because of more money and secondly, many leave to go into business for themselves. Therefore, in order to make salesmen stick to their jobs, an arrangement was worked out whereby salesmen would have unlimited possibilities to make good while employed at Barretts.

Salesmen Own Bosses

ALL the salesmen employed by Barrett are their own bosses. In fact, they are limited partners in the business without the headaches of owning and operating this business. Salesmen get a percentage of the profits on all their sales, they are not on commission or salary.

"Our salesmen get a weekly drawing account and every 90 days, a settlement is established," explains Mr. Barrett. "They get 50% of the profits on their sales. Salesmen know the prices that are charged against them for merchandise. To this is added a certain percentage for overhead. Then the profits are equally

By Phil Lance

divided between the firm and the salesman."

This plan has retained the salesmen for Barrett. If they worked elsewhere, it would probably be on a commission basis, and then it would not be as high as their current percentage, according to Mr. Barrett. Secondly, if they went in business for themselves, they realize the problems that they would have to encounter, such as floor space, merchandise, transportation, insurance, general and administrative costs and others. And in the long run they find that they are better off in their present positions because of the wide latitude they have for conducting their business.

All salesmen have special customers to call on, such as industrial plants, hospitals and schools, hotels and boarding houses, garages and service stations and so on. They can travel anywhere they like, but can not overlap another salesman's field. Because of this specialized plan, each salesman can concentrate on selling certain lines of merchandise and this helps to make them experts in their respective lines.

Salesmen either call in or come into the office every morning. They are all due back in the evening unless they are out of town. Orders are handed in and prepared for filling and shipping. Deliveries are made to the central city area daily, as the firm is located in the heart of Philadelphia. Then twice a week, deliveries are made to the North and East sections of Philadelphia and to the South and West sections. Orders are filled according to the delivery days and specials are filled immediately.

Howard J. Barrett Company is centrally located because of the advantages of being near many of the city's large office buildings, which are its customers. In addition, the location serves as a focal point for deliveries to all other parts of the city.

The Barrett building occupies four floors and a basement. The main floor is used as a store and display area, with shipping operations in the rear. The basement and other floors are

Top: Sales floor on ground floor looking toward front door of the company. Chemical specialties of all types line shelves on right. Top shelves are devoted to larger, metal merchandise such as wastebaskets, etc. Toward center of photograph may be seen mops, dusters and other types of mechanical cleaning aids.
Center: Close-up of shelves of chemical specialties. In addition to nationally advertised brands the firm sells many types of cleaners, polishes, etc. under private label. Lithography is used widely for labeling because of the permanence of the marking.
Bottom: In addition to the unusual line of sanitary supplies sold by most jobbers, Howard J. Barrett also features a line of school furniture, as shown in left part of photo. This is an extra profit maker for salesmen, Mr. Barrett says.

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5 SERVICE—Inland's service to users of Inland containers does not end with production and shipment. Its policy is one of complete customer satisfaction on container performance.

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used for merchandise storage. The firm has tried to group its merchandise by storing items of the same class or type on the same floors. So that metal goods, paper goods, brooms, mops and brushes, detergents and cleaners and so forth are grouped on the various floors of the building. This makes it easier for the shippers to fill orders and to take inventory.

The shippers take their orders for the day and divide them into groups that represent the merchandise stocked on the different floors. On each floor, there are several wire cages. These are 6′ high and 3′ square and built on casters. The shipper loads the cages with the merchandise that has been ordered from that floor, then takes the cage down the elevator to the shipping room. The procedure is repeated on other floors.

Thus all the merchandise for shipment is concentrated in the shipping room and the individual orders filled. This procedure has saved many man hours formerly lost when individual orders were filled separately. The shipping room has a 15-ton holding capacity.

Inventory of 60 Days

THE firm maintains a 60-day inventory on all its merchandise. A file is kept of all its products in classification sequence, such as paper, detergents, metalware, cleaners, etc., so that it is easy to find the specific item. Periodically, this file is checked against actual merchandise on hand to determine the merchandise in stock. A 60-day supply period is sufficient to carry-over all merchandise lines without fear of being out-of-stock.

Barrett packs as many products as possible under his own label. All the metal cans, paper cartons and bottles are labeled with colors by the lithography process, and wherever possible products carry the Underwriter's Laboratory seal. Barrett has found lithography to be best for labeling as it is permanent. Labels can be washed off and printed cartons or cans can have the imprint erased. Lithography is permanent and there is no chance for a mix-up or error such as occurs when labels come off of jars or bottles.

"We have had many customers tell us that they have had to dispose of bottles and jars of supplies because they didn't know what was in them as the labels were washed off," Mr. Barrett explained. "Lithography permits us to use as many colors as we desire for labeling and customers appreciate the permanency of the identification."

The main floor of the building is used as a stock and display area. The firm enjoys a considerable amount of walk-in business from smaller business firms and offices that do not have regular salesmen call on them. Items carried in the store are those most commonly in demand so that over-the-counter sales can be made quickly.

The store floor has seven different types of flooring, which have been used for dual purposes. These coverings are cork, rubber, linoleum, linatile, ⅜ inch thick asphalt tile and battleship linoleum. Mr. Barrett uses the various sections of the store floor to test different products that he intends to stock for his customers. He also uses these areas to give actual demonstrations to customers of the floor machines and chemical specialties that he stocks.

"Many customers," he says, "do not want to take the chance of testing a product on their own floors and we do it right here. Many salesmen bring in their prospects to the showroom and use the floor areas for demonstrations. It has worked out very well for us."

As side-line sales and extra opportunities for his salesmen to cash in, Mr. Barrett handles a line of school furniture and has developed a janitor's jeep and a stainless steel portable expanding bar. In addition the firm rents out polishers to its customers at $5.50 per day.

"Our entire advertising appropriation is devoted to direct mail and printed leaflets and folders that are mailed religiously to our customers," Mr. Barrett points out. "This is the best means of contacting our customers and prospects. We also have an ⅛ page advertisement in the local telephone book. Occasionally we run a special sale on certain products. This is done for two reasons. Either we have a large surplus in stock or else we are going to discontinue the line. We never run price cutting sales for any other reason."

Located along heavily traveled Walnut Street, the store keeps its windows lights illuminated 24-hours a day to show passing traffic its merchandise. As most of this traffic is made up of mid-city employees, businessmen, executives, etc., it helps to bring the Barrett firm in the public's eye.

—— ♦ ——

Koppers Names King V.-P.

Appointment of R. D. King, procurement department manager, as a departmental vice-president was announced recently by Koppers Co., Pittsburgh, Pa. Mr. King joined Koppers in 1920 as a buyer in the procurement department. He became assistant purchasing agent in 1926, purchasing agent in 1929, holding that post until 1946 when he was named procurement department manager.

—— ♦ ——

Supply Firms Expand

Expansion is the order of the day among members of the National Sanitary Supply Association. Recent moves reported by N.S.S.A. executive vice-president Leo J. Kelly, include the following:

Independent Soap Co., to 2211 Pine St., St. Louis 3, Mo., which provides 46,000 sq. ft. of floor space, air conditioned display rooms and free customer parking.

The Mellocraft Co., to 1320 Locust St., Toledo 4, O., where the five-floor building provides 60,000 sq. ft. of space for expanded operations resulting from the recent consolidation of the Van Nest Supply Co. with Mellocraft.

Kleenette Mfg. Co., to larger quarters at 1160 N. Howe St., Chicago 10, Ill. Building Equipment Supply Corp. has also expanded its offices and warehouse at 811-13 W. Broad St., Richmond 13, Va.

Two other notes from Mr. Kelly make known that Fidelity Cleaning Supply Co., Philadelphia, Pa., is observing its 20th year in business while Witchita Brush & Chemical Co., Wichita, Kans., has reached its 25th birthday this year.

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CARDIS® 314	184-189	4-6	4-5	13-15	45-50	EMULSIFIABLE PETROLEUM WAX
CARDIS® 319	180-185	5-7	4½-6	18-20	65-70	EMULSIFIABLE PETROLEUM WAX
CARDIS® 320	180-185	5-7	4-5	28-30	75-80	EMULSIFIABLE PETROLEUM WAX
CARDIS® 262	195-200	4-6	BROWN	14-16	40-45	SPECIALLY PROCESSED PETROLEUM WAX
FORTEX	190-200	3-5	2½-3½	0.0	0.0	MICRO-CRYSTALLINE HARD AND PLASTIC
MEKON® B-20 A-20 Y-20	190-195 190-195 190-195	3-5 3-5 3-5	BROWN-BLACK AMBER-6 MAX. YELLOW-3-3½	0.0	0.0	MICRO-CRYSTALLINE HARD AND BRITTLE
WARCO WAX 180	180-185	4-7	WHITE	0.0	0.0	MICRO-CRYSTALLINE HARD AND BRITTLE
WARCO WAX 150-A	145-155	15-20	YELLOW 1-2	0.0	0.0	MICRO-CRYSTALLINE PLASTIC
WARCOSINE	145-150	15-20	WHITE	0.0	0.0	MICRO-CRYSTALLINE PLASTIC
PARAFFIN	131-133	FULLY REFINED				CRYSTALLINE
SUGAR CANE WAX	174-178	3 MAX.	TAN	23-28	65-77	VEGETABLE WAX

WARWICK WAX Company, Inc., Subsidiary

Sun CHEMICAL CORPORATION

10TH STREET AND 44TH AVENUE, LONG ISLAND CITY, NEW YORK

Bureau . . .

(*From Page 45*)

War II could have been larger had it not been for the difficulty in obtaining shipping space and the further complication that the Rubber Program took an important part of the labor from the babassu areas and transported it up the Amazon to work in the rubber area.

Copra Export M'g'ement Co.

AS soon as General MacArthur had pushed the Japs out of a sizable proportion of the copra producing regions of the Philippines, the Bureau of Raw Materials began to urge upon the war agencies the necessity of rehabilitating the copra industry, not only because of the need for coconut oil, but as an economic stimulus to the Philippines. Early in 1945 the Director of the Office of War Mobilization and Reconversion, James F. Byrnes, issued a directive to the Foreign Economic Administration to rehabilitate the copra export business of the Philippine Islands. The FEA in turn requested five member companies of the Bureau of Raw Materials; namely, Procter and Gamble Trading Co., Philippine Refining Co., Spencer Kellogg and Sons, El Dorado Oil Works, and Atkins, Kroll and Co., all of whom had been engaged in the exportation of copra and coconut oil from the Philippines in pre-war days to organize a Delaware corporation for the purpose which would be financed by the U. S. Commercial Company.

The writer was assigned the task of taking out papers of incorporation on the Copra Export Management Co. which was the name of the Delaware Corporation. Cemco held its first board of directors meeting on May 4, 1945 and elected officers as follows: Sam Benedict, president; Earl Seidenspinner, vice-president; John B. Gordon, secretary; Ray Bush, treasurer; W. J. Ehlers, assistant treasurer, (all officers of the corporation served without compensation). Manuel Igual of El Dorado Trading Co. was appointed general manager in the Philippines.

Cemco got under way in the Philippines at once. During their occupation the Japanese had made off with or destroyed all of the facilities for copra procurement. There was no overland transportation; almost no inter-island steamships; no barges or tugs; few warehouses; no communication facilities. Not only were there no bags in which copra could be carried to market, there were no needles or twine with which to sew up the bags. Some equipment, such as a small number of trucks, jeeps and small quantities of office supplies, was obtained from the U. S. Army headquarters in the Philippines, but the war with Japan was still on, and the Army could release but little, and the bulk of the supplies had to come from the United States.

Trucks from U. S.

GENERAL MacARTHUR who had the keenest appreciation possible of the importance of the rehabilitation of the copra industry as a step toward starting the economy of the Philippines functioning again, when requested by the writer to supply two hundred trucks from Army stocks, replied, "Mr. Gordon, if I give you these trucks which are needed to build up a backlog of munitions for my next offensive, I may pay for them in the blood of my men." Three hundred and ten new trucks of various makes were, therefore, shipped from the United States with six months' supplies of spare parts for each make of truck, along with extra tires and tubes. The Army agreed to assemble the trucks.

Materials of every description from corrugated iron sheets for warehouse roofs to scoops for shoveling copra were shipped to the Islands. All materials and equipment were sold by Cemco to the copra dealers, much on easy credit terms. The first copra to move for export was a few hundred tons of enemy copra in August, 1945, which the Japs had accumulated at Mauban on the east coast of Luzon. In January, 1946, copra exports were 8,342 long tons; in February, 11,788. By mid-year 1946 copra exports were back to normal, and the copra trade was turned back to private initiative. In 1947 the Philippines exported over one million tons of copra, the largest exports in its history which showed that the Copra Export Management Co., which was dissolved on September 27, 1946, had re-established the P. I. copra industry on firm ground.

The current raw material problem of the soap maker with which the Bureau of Raw Materials has had to deal is the repeal of the three-cent processing tax on coconut oil. A bill, H. R. 6292, introduced by Representative Havenner to accomplish this purpose advanced through the hearings stage at the session of Congress which ended July seventh. Prospects appear good for the passage of a similar bill at the next session of Congress.

—— ♦ ——

New Test Linoleum

Armstrong Cork Co., Lancaster, Pa., has offered to cooperate with Chemical Specialties Manufacturers Association in preparing a new improved tentative official test linoleum for 1953, the association announced recently. It is hoped to overcome the drawbacks of surface porosity and high water absorption, which were present in the former T. O.T. L. The association is canvassing its members to ascertain their anticipated needs for this material, which is expected to be available in November or December of this year.

—— ♦ ——

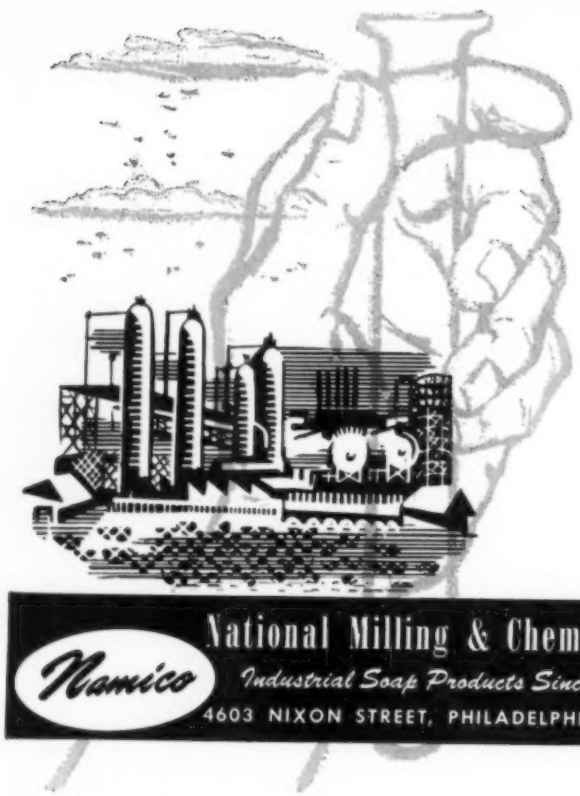
Spray Nozzle Booklet

Binks Manufacturing Co., Chicago, recently issued a bulletin describing its industrial spray nozzles, which are suited for a wide range of applications. Data concerning nozzle dimensions, capacities, and spray angles, are supplied.

—— ♦ ——

Warfarin Data Available

Wisconsin Alumni Research Foundation, Madison, Wisc., recently issued a series of reprints of articles dealing with warfarin rodenticide. Included is the first revision of a clinical memorandum on this material by the technical development branch at Communicable Disease Center, U. S. Public Health Service, Savannah. Reprints of four articles appearing in farm and related journals are also being distributed.



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BORAX *and* BORIC ACID

Consultations on your special problems may help; no obligation

MANUFACTURERS OF FAMOUS "20 MULE TEAM" PACKAGE PRODUCTS

Example 5

	Total	Anhydrous Soap	Salt, etc.	Total Water	Glycerol
1st Change					
50% f.a. soap..	191.00	104.00	3.50	75.00	8.50
Brine	33.66	....	5.29	28.37	...
Contents of kettle after settling					
58% f.a. curd..	164.66	104.00	2.19	54.03	4.44
Spent lye	60.00	....	6.60	49.34	4.06
2nd Change					
58% f.a. curd..	164.66	104.00	2.19	54.03	4.44
Brine	50.00	....	5.50	44.50	...
Contents of kettle after settling					
58% f.a. curd..	164.66	104.00	2.19	55.95	2.52
Spent lye	50.00	....	5.50	42.58	1.92
3rd Change					
58% f.a. curd..	164.66	104.00	2.19	55.95	2.52
Brine	30.00	....	3.30	26.70	...
Contents of kettle after settling					
58% f.a. curd..	164.66	104.00	2.19	56.74	1.73
Spent lye	30.00	....	3.30	25.91	0.79
4th Change					
58% f.a. curd..	164.66	104.00	2.19	56.74	1.73
Brine	20.00	....	2.20	19.80	...
Contents of kettle after settling					
58% f.a. curd..	164.66	104.00	2.19	57.14	1.33
Spent lye	20.00	....	2.20	17.40	0.40
5th Change					
58% f.a. curd..	164.66	104.00	2.19	57.14	1.33
Brine	20.00	....	2.20	17.80	...
Contents of kettle after settling					
58% f.a. curd..	164.66	104.00	2.19	57.45	1.02
Spent lye	20.00	....	2.20	17.49	0.31

Summary

% Glycerol in fat charge	8.50
Spent lye made	180.00
Ratio of fat saponified to lye made	1.0:1.80
% Glycerol in spent lye	4.16
% Glycerol recovered	88.00
% fatty acids in settled curd at each change	58.00

Example 6

	Total	Anhydrous Soap	Salt, etc.	Total Water	Glycerol
1st Change					
58% f.a. soap.	191.00	104.00	3.50	75.00	8.50
Brine	13.66	....	3.09	10.57	...
Contents of kettle after settling					
58% f.a. curd .	164.66	104.00	2.19	53.18	5.29
Spent lye	40.00	....	4.40	32.39	3.21
2nd Change					
58% f.a. curd..	164.66	104.00	2.19	53.18	5.29
Brine	20.00	....	2.20	17.80	...
Contents of kettle after settling					
58% f.a. curd..	164.66	104.00	2.19	54.41	4.06
Spent lye	20.00	....	2.20	16.57	1.23
3rd Change					
58% f.a. curd..	164.66	104.00	2.19	54.41	4.06
Brine	20.00	....	2.20	17.80	...
Contents of kettle after settling					
58% f.a. curd..	164.66	104.00	2.19	55.36	3.11
Spent lye	20.00	....	2.20	16.85	0.95
4th Change					
58% f.a. curd..	164.66	104.00	2.19	55.36	3.11
Brine	40.00	....	4.40	35.60	...
Contents of kettle after settling					
58% f.a. curd..	164.66	104.00	2.19	56.54	1.93
Spent lye	40.00	....	4.40	34.42	1.18
5th Change					
58% f.a. curd..	164.66	104.00	2.19	56.54	1.93
Brine	60.00	....	6.60	53.40	...
Contents of kettle after settling					
58% f.a. curd..	164.66	104.00	2.19	57.46	1.01
Spent lye	60.00	....	6.60	52.48	0.92

Summary

% Glycerol in fat charge	8.50
Spent lye made	180.00
Ratio of fat saponified to lye made	1.0:1.80
% Glycerol in spent lye	4.16
% Glycerol recovered	88.12
% fatty acids in settled curd at each change	58.00

Glycerine Recovery

(*From Page 91*)

this matter. Example 7 is strictly comparable with Example 4 in all respects, with the exception that the salt used is assumed to contain 5.0 percent glycerol. It is interesting to note that out of a total of 1.11 of glycerol introduced with the salt, only 0.37 is left in the soap and irretrievably lost. The 0.37 figure is obtained by deducting the 0.96 glycerol residue of the finished soap in example 4 from the figure of 1.33 in example 7. Therefore, even when the same volume of wash liquor is used, only 33.0 percent of the glycerol introduced with the salt is lost.

A 5.0 percent glycerol content in recovered salt is on the high side, but is by no means uncommon. Smaller amounts of glycerol naturally have a lesser effect on the overall efficiency If the calculations are made it will be found that while a 5.0 percent

Example 7

	Total	Anhydrous Soap	Salt, etc.	Total Water	Glycerol
1st Change					
50% f.a. soap..	191.00	104.00	3.50	75.00	8.50
Brine	9.66	....	2.65	6.70	0.31
Contents of kettle after settling					
58% f.a. curd..	164.66	104.00	2.19	52.78	5.69
Spent lye	36.00	....	3.96	28.92	3.12
2nd Change					
58% f.a. curd..	164.66	104.00	2.19	52.78	5.69
Brine	36.00	....	3.96	31.84	0.20
Contents of kettle after settling					
58% f.a. curd..	164.66	104.00	2.19	54.66	3.81
Spent lye	36.00	....	3.96	29.96	2.08
3rd Change					
58% f.a. curd..	164.66	104.00	2.19	54.66	3.81
Brine	36.00	....	3.96	31.84	0.20
Contents of kettle after settling					
58% f.a. curd..	164.66	104.00	2.19	55.81	2.66
Spent lye	36.00	....	3.96	30.69	1.35
4th Change					
58% f.a. curd..	164.66	104.00	2.19	55.81	2.66
Brine	36.00	....	3.96	31.84	0.20
Contents of kettle after settling					
58% f.a. curd..	164.66	104.00	2.19	56.62	1.85
Spent lye	36.00	....	3.96	31.03	1.01
5th Change					
58% f.a. curd..	164.66	104.00	2.19	56.62	1.85
Brine	36.00	....	3.96	31.84	0.20
Contents of kettle after settling					
58% f.a. curd..	164.66	104.00	2.19	57.14	1.33
Spent lye	36.00	....	3.96	31.32	0.72

Summary

% Glycerol in fat charge	8.50
Spent lye made	180.00
Ratio of fat saponified to lye made	1.0:1.80
% Glycerol in spent lye	3.98
% Glycerol recovered	84.35
% fatty acids in settled curd at each change	58.00

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FRANKLIN'S CLEANER . . . for cleaning, stripping and maintaining all floors. A liquid wax soap that seals as it cleans. Highly concentrated . . . one gallon makes up to 40 gallons of fast acting cleaning solution. Cleans by saturation . . . no hard scrubbing.

FRANKLIN'S WAX . . . a tough, long wearing, self-polishing wax. Cuts maintenance costs on linoleum, rubber, asphalt tile, wood, etc. Withstands water and damp mopping indefinitely. Classified by Underwriters' Laboratories as anti-slip.

A COMPLETE LINE OF FLOOR MAINTENANCE MATERIALS AVAILABLE UNDER YOUR OWN LABEL . . . sales assistance and prompt delivery of materials are assured by Franklin factory representatives, offices and warehouses located in principal cities from coast to coast.

HAND CLEANERS

Put your organization and your customers in the position of benefiting from the "know-how" gained during 40 years of making better and better hand cleaners.

WORKERS like the quick-lathering, gentle scrubbing, easy-rinsing action of Mione. And its very definite skin conditioning value.

MANAGEMENT likes the safe, sanitary, efficient, trouble-free Mione features, plus its economy per pound, low cost per scrub-up, and the basic economy of skilled hands always at top productivity.

EVERYONE who sells washroom supplies will be interested in the competitive price structure, the handsome jobber discount, and the steady repeat orders that come from complete consumer satisfaction.

MIONE SPECIAL Containing G-11* (Hexachlorophene) is a GREAT new soap with GREAT profit possibilities
Full details on request
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Mione MANUFACTURING COMPANY
Makers of famous hand soaps for 40 years
COLLINGDALE PENNSYLVANIA

glycerol salt will cause a drop in recovery of 4.35 percent

a 4% glycerol salt will cause a drop of..... 3.52%
a 3% glycerol salt will cause a drop of..... 2.64%
a 2% glycerol salt will cause a drop of..... 1.76%
a 1% glycerol salt will cause a drop of..... 0.88%

These figures hold good when the total amount of wash liquor remains the same.

On the other hand, equal recoveries in both examples 4 and 7 could be obtained, provided the wash liquor used in example 7 was increased in relation to the amount of glycerol present in the salt.

Whereas in example 4 in which glycerol free salt was used, a recovery of 88.7 percent was obtained, with 180.0 of wash liquor, the same recovery would be possible provided

220.0 of wash liquor were used with a..... 5.0% glycerol salt
212.0 of wash liquor were used with a..... 4.0% glycerol salt
204.1 of wash liquor were used with a..... 3.0% glycerol salt
196.2 of wash liquor were used with a..... 2.0% glycerol salt
188.1 of wash liquor were used with a..... 1.0% glycerol salt

Thus it is clear that the glycerol content of the recovered salt is very important, since it may (a) cause a reduction in overall recovery or (b) necessitate additional washing of the soap, in which it is used, to maintain the same recovery.

Generally speaking, it is worth while to treat the recovered salt after it has left the evaporators in order to reduce its glycerol content as low as possible — say 0.5 percent. On the other hand, such treatment involves expense, and in all cases it will be necessary to place the cost of treatment against the evaporation cost saved. It will be found that in some cases no economy is offered by attempting to reach such a low residue as 0.5 percent. Once more, the final decision must be governed by economic considerations.

Suppose for example a salt contained 2.0 percent of glycerol. According to the results illustrated in examples 4 and 7, this amount of glycerol would affect the overall efficiency by 1.76 percent or to avoid this loss, nearly 10.0 percent more wash liquor would have to be used. The cost of treating and evaporating the extra spent lyes would have to be set against the cost of working the salt down to say 0.5 percent glycerol.

Apart from economic considerations, it is good practice to treat the salt to a constant glycerol content. The salt drawn from an evaporator is certain to vary in its glycerol content, no matter how well the operation is carried out, and this makes it difficult to fix the correct volume of wash liquor to be used.

(*To be continued*)

Reader Sees It

(*From Page* 41)

term is used still by some people to designate a toilet soap made from olive oil or olive foots, or one made substantially from these materials. But that's trade jargon. If you have a pink bar of soap made from horse fat, we know of no legal restriction against calling it "castile" if you choose to do so.—Ed.

—— • ——

Little St. Louis Office

The opening of a mid-west office in the Railway Exchange Building, St. Louis, Mo., by Arthur D. Little, Inc. of Cambridge, Mass., was announced recently. The new branch is headed by John R. Kirkpatrick.

Wrisley History

(*From Page* 52)

at the Trans-Mississippi Food Exhibition at Cedar Rapids, Iowa in 1900.

The Wrisleys started making hard milled toilet soap in 1880. They were among the first to produce hard, smooth, long lasting bars which are still standard in the toilet soap industry.

"OlivilO" is a soap which dates back to the time when Allen Wrisley began making toilet soaps from olive oil, coconut oil and other vegetable fats. He coined the name of "OlivilO" which became a household word. With a capital letter on each end, it was widely advertised for toilet and bath. The original slogan "Read it forward —read it backwards" caught popular fancy and helped make "OlivilO" the big seller which it has remained ever since.

Early Wrisley Soaps

DESPITE the fires, Wrisley archives still hold some interesting historic pieces. They have a cake of Old Country Soap which Allen Wrisley made himself—a big bar that weighs a pound. They have a soap doll which dates back to McKinley's campaign for President with a little printed label on it reading: "my papa will vote for McKinley. Gold Standard, protection, reciprocity and good times." One of Wrisley's first advertisements dates back to 1895. It's from the spring announcement number of the *Delineator* and tells how "homely faces grow beautiful by using Wrisley's cucumber complexion soap." They also have small flyers in color of Wrisley's White Velvet Soap, "Always on hand and always dry."

By way of marking their 90th anniversary Wrisley has built two miniature bathrooms—one of ninety years ago and another of today as the centers of use of Wrisley products through the years. The old bathroom is copied from photographs taken in the homes of President James Buchanan at Lancaster, Pa., and James Whitcomb Riley in Indianapolis. Their homes are now national shrines. Both bathrooms were in use in 1862 and continued as they were without change for many years.

In the old bathroom are some of the early Wrisley products—"OlivilO," "Palmetto Complexion Soap," "Barber Bar Shaving Soap." The modern bathroom has in it Wrisley's "Bath Superbe Soap," "Toilet Superbe Soap," "Superbe Bath Crystals," "Perfumed Bubble Bath," "Surex Soap," "Very Soft Bath Crystals," "Four Seasons Lotion," "Piggy Bubble Bath" and "Spruce Shave Soap" and lotion. The model bathrooms are on a tour of the country and will be displayed in New York in the fall.

4 reasons why PETROLITE is a best buy in microcrystalline wax

1 Petrolite specifications are unsurpassed by those of any other microcrystalline wax. Your comparison is invited.

Petrolite CROWN	Melting Point °F	Pen. with 100 gms.	Color N.P.A.	Acid Number	Sapon. Number
* 23	180 min.	4 to 6	4 to 5	20-25	55-65
* 36	180 min.	5 to 7	5 to 6	30-35	75-85
200	190/195	10 max.	Br. to Bl.	Nil	Nil
500	190/195	10 max.	2 to 2½	Nil	Nil
700	190/195	5 max.	2 to 2½	Nil	Nil
1035	195/200	2 max.	2 to 2½	Nil	Nil
Jet Black	185 min.	11 to 16	Black	Nil	Nil

*Emulsifiable Waxes.

1 SPECIFICATIONS

2 MANUFACTURE

3 RESEARCH

4 ECONOMY

2 Petrolite waxes are produced only by Petrolite, in the Petrolite refinery — a refinery designed solely for the production of high quality waxes.

3 The Petrolite research staff carries on a continuing program in an effort to improve Petrolite waxes and their efficient use. These efforts ultimately result in better basic waxes which may help you improve your product — and gain additional profits.

4 The chemical and physical properties of Petrolite waxes make it possible for them to replace or extend costly vegetable waxes — at an attractive price advantage.

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W 52/2-1

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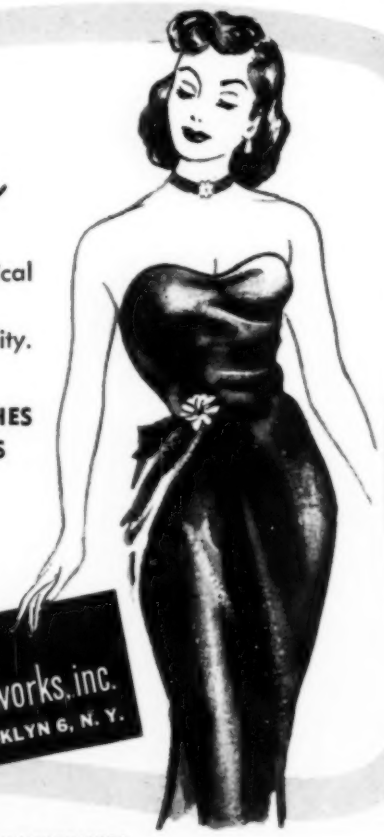

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SANITARY SUPPLIES MANUFACTURERS FOR DISTRIBUTORS — JOBBERS — WHOLESALERS

News

Hall With Pioneer Chemical

The formation of Pioneer Chemical Associates, a new organization to act as consultants, brokers and

J. NEWTON HALL

marketers in the chemical and allied industries, with headquarters in Denver, Colo., was announced late last month. J. Newton Hall, formerly vice-president of Julius Hyman and Co., Denver, has been named general manager of the new organization which is making its headquarters at 3035 East Colfax St., Denver 6.

Mr. Hall is well known in the chemical industry, having served during the war years with the Chemicals Bureau of the War Production Board. He joined Hyman when that company was organized in 1945 to head its sales and development activities and remained with the firm until last April when it was acquired by Shell Chemical Corp.

New Haag Floor Waxes

The introduction of two new water emulsion type floor waxes, both carnauba based, and one of which contains du Pont's "Ludox" colloidal silica as an anti-slip ingredient, has just been announced by Haag Laboratories, Inc., Blue Island, Ill. Both of the new waxes, "Haag Safety Wax" and "Haag Standard Wax," are listed by Underwriters' Laboratories as "anti-slip floor treatment materials." The waxes, which are for sale to jobbers under private brand only, feature high gloss. Both waxes are light in color, the standard wax being described as a floor treatment material for use where anti-slip properties are not the major consideration. For floors on which it is necessary to reduce the possibility of slipping to a minimum, Haag's safety wax is suggested.

CSMA Luncheon Sept. 17

Resumption of a series of luncheon meetings sponsored by the Chemical Specialties Manufacturers Association will take place at the Hotel Roosevelt, New York, Wednesday, Sept. 17, it was announced last month by Leonard J. Oppenheimer of West Disinfecting Co., Long Island City, N. Y., program chairman. There will be a speaker and industry problems are to be discussed. A similar luncheon, the first of which was held last May, is scheduled for Oct. 15.

Sterwin Moves in Buffalo

Removal of its Buffalo, N. Y., offices from 1102 Rand Building to 720 Erie County Bank Building, Buffalo 2, was announced early this month by Sterwin Chemicals, Inc., New York. L. R. Patton, district manager, is in charge of the office.

New Coast Aerosol Plant

Establishment of a new custom loading plant equipped to fill over 8,000,000 aerosol containers was announced recently by Edward L. Mosier and Lewis S. Lawson, heads of Par Industries, Inc., 2193 E. 14th St., Los Angeles. Par maintains complete laboratory facilities, according to the announcement. Complete custom loading service is being offered including valves, Freon propellent and formulations as required, as well as cans where needed.

All of the high-speed equipment is custom built, according to Mr. Mosier. It is completely automatic and can handle any aerosol product including insecticides, room deodorants, cosmetics, paints, lacquers, etc. Par does not market any items of its own and is strictly a packing organization, Mr. Mosier stated.

Trio Names Two

Appointment of William L. Michaelis as production manager by Trio Chemical Works, Inc., Brooklyn,

WILLIAM L. MICHAELIS

N. Y., was announced recently. Mr. Michaelis' previous experience includes three years in the laboratory of White Tar Division of Koppers Co., Pittsburgh, and six years in charge of the laboratory at Standard Chlorine Chemical Co., South Kearny, N. J.

At the same time Trio announced employment of Kurt J. Wasserman as chief chemist. He was formerly associated with Wallerstein Co., New York, serving in the firm's analytical and consulting division. He is a graduate of Brooklyn College and did postgraduate work at Polytechnic Institute of Brooklyn.

KURT J. WASSERMAN

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The CHEMISTE INSECTICIDAL SMO-CLOUD is a new process for killing insect pests. It is scientifically compounded with Lindane, DDT or Methoxychlor (you may specify which) as the active ingredient. Smo-Cloud is being used effectively on a commercial scale in meat packing plants, bakeries, and granaries as well as in homes, camps, cottages and apartments.

- **No fire hazard**
- **Non-injurious, non-staining**
- **No spraying equipment necessary**
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Exclusive franchise territories available.

Further details will be gladly sent on request or better still use the coupon to order a trial pound.

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To: Continental Chemiste Corp.
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☐ Enclosed is our check for $8.25 covering 8 individual two ounce canisters of your INSECTICIDAL SMO-CLOUD.
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A SURE THING
With RESULTS that BUILD
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WIFF WONDER BOMBS

NEWEST! MOST EFFECTIVE!
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A NEW 5 LB. WONDER BOMB
METHOXYCHLOR, PYRETHRUM, & PIPERONYL BUTOXIDE

J-118 FOR GUARANTEED RESULTS

A tremendous advance in killing D.D.T. and Lindane-resistant flies. The perfect bomb for food establishments, hospitals, nurseries, bakeries, confectionery stores, restaurants, taverns, canning factories, airplanes, steamships and chicken farms. Easy to operate, effective, fast and non-injurious. Non-Inflammable.

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Deposit on cylinders $3.75 each. Refunded upon return of empty cylinders.

J-120 NEW 5 lb. Aerosol DEODORANT
Modern, Scientific method to effectively destroy unpleasant odors.
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Shifts Sveda, Snyder

Dr. Harold H. Snyder has been placed in charge of sales development of silica products, including "Ludox"

HAROLD H. SNYDER

colloidal silica, E. I. du Pont de Nemours & Co., Wilmington, announced recently. He succeeds Dr. Michael Sveda, who has been given a position of increased responsibility in the Grasselli chemicals department's industrial sales organization.

As a member of Grasselli's technical division, Dr. Snyder for the last four years had been in charge of Du Pont's laboratory work on colloidal silica, including the application of "Ludox" in floor wax formulations. A development of Du Pont research, "Ludox" imparts skid resistance to water emulsion floor waxes without softening the wax film.

A native of Stevens Point, Wis., Dr. Snyder attended the University of Wisconsin, receiving the degree of doctor of philosophy in inorganic chemistry in 1945. He joined Du Pont in 1945 as a research chemist in the Grasselli laboratory in Cleveland. He became a research supervisor in 1948, and in 1950 came to Wilmington as manager of the industrial products section of Grasselli's technical division.

Dr. Sveda, who had been supervisor of the silica products sales development group since 1948, was born in West Ashford, Conn. He received the degree of bachelor of science from Toledo University in 1934 and that of doctor of philosophy in chemistry from the Universty of Illinois in 1939. He joined Du Pont in 1939 as a research chemist in the Grasselli chemicals department and became a research supervisor in 1945.

NPCA to Meet in Texas

The twentieth annual convention of National Pest Control Association will be held at the Rice Hotel, Houston, Tex., October 20, 21, 22, it was announced recently. Other meetings of P. C. O's scheduled are Alabama Pest Control Association meeting at the Whitley Hotel, Montgomery, September 12-13; Tennessee PCA meeting at the Andrew Jackson Hotel in Nashville, September 14-15; and Kansas Termite & Pest Control Association meeting at Topeka, September 16-17. William O. Buettner, NPCA secretary, will attend all five meetings.

Monsanto Names Mueller

Appointment of Robert K. Mueller as general manager of the plastics division has been announced recently by Monsanto Chemical Co., St. Louis, Mr. Mueller succeeds the late F. A. Abbiati. He served formerly as assistant general manager.

Stauffer Appoints Goodhue

Stauffer Chemical Co., New York, recently announced appointment of R. K. Goodhue as Akron district sales manager. Mr. Goodhue has been associated with Stauffer since 1942.

Through an inadvertence, the cut of W. R. Zellner was published on page 165 of the August issue of SOAP & SANITARY CHEMICALS with a news item of the appointment of Thomas H. Risk (above), as vice-president of R. M. Hollingshead Corp., Camden, N. J. A number of readers have called this error to our attention, some of the correspondence being published on page 41 of this issue. Apologies are in order to both men for any embarrassment that may have been caused.

C.S.M.A. Meets in N. Y., Dec. 7-9

TENTATIVE program details announced recently for the 39th annual meeting of the Chemical Specialties Manufacturers Association, to be held at the Hotel New Yorker, New York, Sunday, Monday and Tuesday, Dec. 7, 8 and 9, include a symposium discussion on the role of alkaline builders in soaps and synthetic detergents and a paper on soils. Also tentatively scheduled is a paper dealing with volatility of emulsifiers in applied films of wax polish.

Slated to participate in the panel on builders are Max Metziger of Blockson Chemical Co., Joliet, Ill., who will cover the phosphates; William Stericker of Philadelphia Quartz Co., Philadelphia, who will handle the silicates; R. H. Sawens of Solvay Sales Division, Syracuse on caustic soda, and Dr. L. B. Parsons of Lever Brothers Co., New York, who will present the viewpoint of the large user of builders in soaps and detergents. Also speaking will be Samuel J. Miller, of the Du Bois Co., Cincinnati.

Jay C. Harris of the Central research laboratories of Monsanto Chemical Co. in Dayton, O., will speak on the subject of soils.

T. Carter Parkinson, McCormick & Co., Baltimore, second vice-president of C.S.M.A., is general program chairman, and Richard T. Yates of Hercules Powder Co., Wilmington, is general vice-chairman of the program committee. Program chairmen of the six divisions of which the association is composed include: H. G. Lederer of R. M. Hollingshead Corp., Camden, N. J., Disinfectants and Sanitizers Division; George E. Barker of Atlas Powder Co., Wilmington, Del., Soaps, Detergents and Sanitary Chemicals Division; C. S. Kimball of Foster D. Snell, Inc., New York, Waxes and Floor Finishes Division; J. M. Kimmel, Aeropak, Inc., Chicago, Automotive Chemical Specialties Division; George W. Fiero, Esso Standard Co., New York, Insecticides Division, and George Barr, G. Barr & Co., Aerosol Division.

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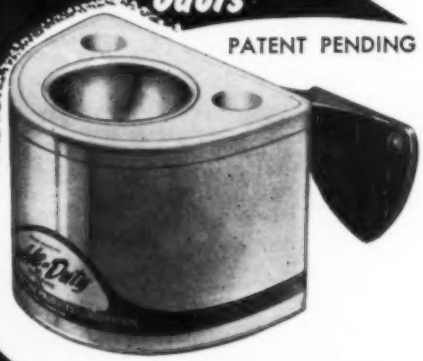

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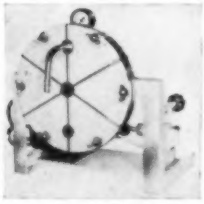

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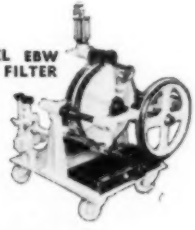

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Propose Insecticide Act Changes

PROPOSED amendments to the regulations for the enforcement of the Federal Insecticide, Fungicide, and Rodenticide Act were contained in a notice published by Production and Marketing Administration of the U. S. Department of Agriculture on August 12. The notice was issued by W. G. Reed, Chief, Insecticide Division and was signed by Charles F. Brannan, Secretary of Agriculture. The proposed changes involve: 1. Section 162.10 would be amended by adding thereto new paragraphs (h) and (i) to read respectively:

(h) Duration of registration.—Unless cancelled in accordance with the provisions of section 4.c. of the act or with the acquiescence of the registrant, or unless continued in effect in accordance with the provisions of paragraph (i) of this section, the registration of an economic poison shall be cancelled at the end of a period of five years following the date of registration of such an economic poison or following the date any subsequent registered change in formula or labeling or following the date of any continuance of registration pursuant to paragraph (i) of this section; provided, however, that prior to any such cancellation the Insecticide Division shall send to the registrant a notice of intent to cancel, and, in the event such notice is not sent to the registrant 30 days prior to the expiration of the five year period, the registration shall remain in effect until 30 days following the date such notice has been sent to the registrant at his latest address submitted to the Insecticide Divison.

(i) *Continuance of registration.*—If a registrant desires to continue the registration in effect, he shall notify the Insecticide Division in writing and it shall be continued in effect under the same terms as the original registration; *Provided, however,* that if, on the basis of information available at the time, it appears that the product or its labeling fails to comply with the act the registrant shall be so notified and an opportunity given to make the necessary corrections. If the corrections are not made continued registration without protest shall be refused but registration under protest as provided in section 4. c. of the act shall be issued if requested in writing by the registrant.

2. Paragraph (2) of section 162.17-(b) would be amended and new paragraphs (3), (4), (5) and (6) would be added to section 162.17(b) to read, respectively:

(2) If an economic poison is to be tested for a use which is likely to result in a residue on or in food or feed a permit for shipment or delivery will be issued only when

(i) The food or feed product will not be used for food or feed except for laboratory animals, or

(ii) Proof satisfactory to the Director is submitted by the applicant that the proposed use will not result in a residue which is hazardous to man or other animals.

(3) A permit for shipment or delivery of any experimental economic poison for testing in any place likely to be frequented by people will be granted only if it is clearly shown in the application for such permit that proper safeguards will be taken to prevent injury to all persons concerned.

(4) All applications for permits covering shipments for experimental use shall be filed in duplicate and must be signed by the shipper or the person making the delivery and must contain the following:

(i) Name and address of the shipper and place or places from which the shipment will be made.

(ii) Proposed date of shipment or proposed shipping period not to exceed one year.

(iii) A statement of the composition of material to be covered by the permit which should apply to a single material or group of closely allied formulations of the material.

(iv) A statement of the approximate quantity to be shipped.

(v) Available data on the acute toxicity of the economic poison.

(vi) A statement of the proposed experimental program, including the pests or organisms to be experimented with, the crops or animals for which it is to be used, the localities where it will be tested, and all of the circumstances of the proposed experimental program, and including a full statement of the results of previous tests where necessary to justify the quantity requested.

(vii) When food or feed are likely to be contaminated, either a full statement of action which will be taken to prevent the food or feed from being consumed, or a full statement of the probable quantity of the contamination together with all available experimental data on chronic toxicity of the economic poison.

(viii) The percentage of the total quantity specified under (iv) which will be delivered without cost to the user.

(ix) A statement that the economic poison is intended for experimental use only.

(x) Proposed labeling which must bear (1) the prominent statement FOR EXPERIMENTAL USE ONLY on the container label and any accompanying circular or other labeling, (2) a warning or caution statement which may be necessary and if complied with adequate for the protection of those who may handle or be exposed to the experimental formulations, (3) the name and address of the applicant for the permit, (4) the name or designation of the formulation, and (5), if the economic poison is to be sold, an ingredient statement.

(5) The Director may limit the quantity of economic poison covered by a permit to such less quantity than requested as he may determine if the available information on effectiveness, toxicity or other hazards is not sufficient to justify the scope of experimental use proposed in the application, or make such other limitations in the permit as he may determine to be necessary for the protection of the public.

(6) An economic poison intended for experimental use shall not be offered for general sale by a retailer or others, or advertised for general sale.

3. Section 162.17(b) would be amended to read:

(d) *Cancellation of permits.*—Any permit for shipment for experimental use may be cancelled at any time for any violation of the terms thereof or if it shall appear to the Director that the permit should be cancelled for the protection of the public.

F. M. C. Shifts Executives

Joseph B. Cary was recently elected chairman of the executive committee of Food Machinery & Chemical Corp., New York, and is sharing with president Paul L. Davies responsibility for overall corporate activities. At the same time Ernest Hart, formerly vice-president of F.M.C. and president of its Niagara Chemical Division was elected an executive vice-president of the corporation and is responsible for supervising and coordinating the operations of all F.M.C. chemical divisions.

Benjamin C. Carter, formerly vice-president and controller of F.M.C. was elected executive vice-president of the corporation and is supervising and coordinating the mechanical divisions of F.M.C. J. M. Pope has been elected controller.

J. C. Vernon, previously vice-president and sales manager of the Niagara Chemical Division succeeds Mr. Hart as president and manager of that division with headquarters at Middleport, N. Y.

ERNEST HART

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Continental Names Three

Three new general manager posts, each carrying full responsibility for all sales and manufacturing operations within a given district, have been created within the central (metal) division of Continental Can Co., New York, according to a recent announcement by W. M. Cameron, division vice-president.

The new appointments are: R. S. Hatfield, general manager of the north-central district, a territory which includes plants in Milwaukee, Mankato, Minn., and Chicago; Frank I. Gill, general manager of the mid-central district, which includes plants in Chicago's Clearing section, Cincinnati and Elwood, Ind., and district sales offices in Chicago (Tri-State), Cincinnati, and Des Moines; and John L. Heinlein, general manager of the south-central district with plants in Denver, Harvey, La., Houston, St. Louis, East St. Louis, Ill., and Coffeyville, Kan., and district sales offices in St. Louis, Kansas City, Kan., New Orleans, and Houston. A similar reorganization for the firm's eastern division will be announced soon.

Johnson Wax Names Sloan

S. C. Johnson & Son, Inc., Racine, Wis., recently appointed James A. Sloan as manager of the Dallas, Tex., district office of the automotive specialties department. Mr. Sloan was formerly on the company's sales force in Abilene. He has been with Johnson for two years.

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CSMA Proceedings

The official proceedings of the 38th mid-year meeting of the Chemical Specialties Manufacturers Association, held at the Sheraton Plaza Hotel, Boston, June 8-10, will be available late in September, it was announced recently by H. W. Hamilton, C.S.M.A. secretary. Copies of the proceedings, which contain complete text of papers and discussion presented at the meeting, will be available from the association for $7.50, a check for which must accompany order. Copies to be shipped elsewhere than U. S., Canada and Latin America carry an additional postage charge of 50 cents each which should be included in check. For further details and copies write the C.S.M.A. at 110 E. 42nd St., New York 17, N. Y.

Cottrell Retires From ISCO

H. S. Cottrell, associated with Innis, Speiden & Co., New York, for thirty-one years, retired September 1. Mr. Cottrell started his career in the chemical industry in 1916, when he became associated with Marden, Ortho & Hastings Corp., manufacturer of leather chemicals, Boston. He joined Innis, Speiden in 1921 as a salesman in the Ohio territory and the following year was brought to New York as assistant to the late H. G. MacKelcan, vice-president and sales manager.

Mr. Cottrell was appointed manager of the company's chemical department in 1935, a post he held until last year when the firm was acquired by International Minerals & Chemical Corp., Chicago. He was then named manager of sales promotion and advertising.

H. S. COTTRELL

—— ♦ ——

Toledo Vaporizer Ordinance

The city of Toledo, O., recently adopted ordinance 413-52, regulating sale and use of thermal generators dispensing lindane or other insecticides, etc. The city ordinance requires compliance with the recommendations of the Inter-departmental Committee on Pest Control. Violation of the ordinance is a misdemeanor subject to fines of $50 to $500 or not more than 90 days in jail.

—— ♦ ——

Bruce Appoints Broker

E. L. Bruce Co., Memphis, Tenn., recently appointed Donovan & Salzer, Inc., Tampa, Fla., as brokers for its line of cleaning and polishing products. This includes "Bruce" floor cleaner, asphalt tile cleaner and allied products, and a new foam polish for furniture.

Soap Plant Observer

(*From Page* 105)

preventing these salts from forming scale or deposits only when used in compounds having a low free alkali content calculated as NaOH. With high alkalinity, the salts of acids having at least three hydroxyl and/or carboxyl groups such as gluconic, malic, tartaric or citric acids are more effective. Of these, the sodium salt of gluconic acid is best. When high percentages of soda ash and polyphosphates are also present, then sodium gluconate is not effective in sequestering the precipitated salts and the polyamino type sequestrants named above are necessary. With compounds having carbonates, and/or phosphates, plus free alkali, then mixtures of the amino type sequestrants, plus sodium gluconate, are required.

Two products made by Diversey and embodying these ideas are "Spec Tak," a bottle washing compound and "Aluminux," an alkaline aluminum etching compound.

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No. 11 TRANSPARENT PLASTIC DISPENSER ***with push-up type valve.***

Applications: Specially designed for service station, garage, home use.

Features: Durable, transparent plastic container. Inexpensive . . . low in maintenance cost. Close-fitting top swings open for convenient filling. Positive metal agitator prevents packing—meets most soap flow characteristics. Push-up plunger permits quick, one-hand operation. Steel sleeve surrounding dispensing mechanism gives added strength . . . provides secure support for steel bracket for wall mounting.

Materials: Exterior metal parts have baked-enamel finish to harmonize with plastic color.

Specifications: Size—8" high x 4" diameter. Weight—4 oz. Capacity —approximately 1 pint (liquid measure).

Packing: Standard packing—1 unit to individual re-shipper carton (weight—12 oz. per carton).

No. 10 ALL-PLASTIC DISPENSER ***with push-in type valve.***

Applications: Industrial plants, public buildings, office buildings, schools, theaters, gasoline stations—also a practical convenience for the home laundry or kitchen.

Features: Transparent plastic container. Wide-opening top for easy filling (Lock-top—Model 10-L—optional). Positive agitator prevents packing, insures smooth, even flow. Non-clog thrust-in discharge valve easy to clean. Heavy brackets for direct mounting to wall or pipe.

Specifications: Size—8" high x 3¼" x 3½". Weight—14 oz. Capacity—1 quart (liquid measure).

Packing: Standard packing—1 unit to individual re-shipper carton (weight—1 lb. 5 oz.); repacked 1 dozen to shipping case.

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Hihn Joins Powell

M. Morrison Hihn, chemical engineer formerly with American Can Co., New York, recently joined the

M. MORRISON HIHN

executive staff of John Powell & Co., New York, manufacturers of insecticide materials, according to an announcement made by H. Alvin Smith, president. Mr. Hihn is a native of Baltimore and a graduate of Johns Hopkins University. Among other activities he was engaged as research engineer in projects dealing with special insecticide-packaging problems.

Kennedy Heads Lysol Sales

Lehn & Fink Products Corp. recently appointed O. G. Kennedy as general sales manager of the Lehn & Fink division. The division manufactures Lysol disinfectants and other products.

Floor Finishes

(*From Page* 145)

into some use in the last few years. The introduction of styrene into the alkyd complex has given a product that dries very fast, even more so than the usual alkyd. It possesses good color. Such finishes applied at 30 per cent solids will dry to recoat in 30 to 60 minutes. These finishes unless modified in some way, lack scuff resistance, and do not possess all the solvent resistance that could be desired when paste waxes are applied over them. They do not penetrate wood as well as varnishes, or usual alkyds. Their use is best confined to that of a sealer, over which other finish coats may be applied. Their prime virtue is in speed of dry and good color.

The biggest use of the vinyl resins is in the plastic compositions such as floor tiles. There is some use made of the hydrolized copolymer of vinyl chloride-vinyl acetate as floor finishes employing other modifying agents. The vinyl coatings are used more on concrete than on wooden floors. The vinyl coatings have excellent color, are thermoplastic, and are resistant to most chemicals. They are tough and elastic. Unless highly modified, solutions have low solid contents. Vinyl modification is required to overcome deficiencies in adhesion. Wood penetration is slight. The required solvents are of the ketone, or ester types, using aromatic hydrocarbons as diluents. These same solvents will resoften a hardened coating.

Chlorinated rubber and its combinations with alkyds are on the market as well as nitrocellulose lacquer finishes. Ethyl cellulose, another cellulose derivative, does not find extensive use in finishes for wood floors. All these materials require strong solvents, and have good color, but have poor penetrating properties.

Many manufacturers of floor finishes are presently investigating the properties of the epychlorhydrin-bis phenol reaction resin in a modified form for floor finishes. They have good color, are tough and offer a high order of alkali resistance. Some formulations seem to possess a greater affinity for the retention of traffic dirt. In other formulas it is desirable to improve the speed of dry. They still lack the field experience of the standard phenolic floor finishes.

A relatively new use of an old idea is the acid catalyzed phenol-formaldehyde resin solution. This finish is applied in alcohol solutions. The acid catalyst is added to the resin solution before use. After the alcohol evaporates, the catalyst causes the phenol resin to polymerize to an insoluble state. The film becomes free of tack in fifteen minutes, is print-free in one to two hours and converts to complete insolubility in strong solvents in twenty-four hours. Except for strong alkalies, the film possesses exceptional resistance to chemicals, water, sovents and greases. It gives a very hard, marproof surface without any trace of thermoplasticity. The early products of this type discolored very badly on exposure to light. This defect has been eliminated and the light discoloration of the film is now very moderate. The finishes are so hard and tough that they are difficult to remove, even by sanding. So far as we know, but few field tests have been made to date to prove their ultimate value.

Conclusions

FOR many years, the phenolic resin varnishes and floor sealers have become a standard in the floor finishing field. They offer all of the properties desired in a floor finish, such as:

1. penetration of the top surface of the wood (3), to become an integral part of the wood, so that after application they will only wear away as the wood itself wears away;

2. sealing the pores so as to keep out dirt and resist soil stains;

3. penetrating qualities which must not darken the wood, but give the floor an attractive, satin-like sheen, high lighting natural color of the wood;

4. reflecting light so as to improve illumination;

5. being non-slippery;

6. must not be readily marred or scratched or flake off;

7. of such quality that if it becomes necessary to touch up worn spots in heavy traffic lanes, it can be accomplished without complete refinishing, and with the resulting treatment showing a uniform appearance.

8. being resistant to water;

9. after application does not present a maintenance problem and insures economy in maintenance, so as to eliminate frequent resanding and complete refinishing.

(1) By Frederick L. Brown, Senior Chemist Forest Products Laboratories. Circular No. 489, July 1938. U. S. Dept. of Agriculture.
(2) The Industrial and Artistic Technology of Paint and Varnish, Alvah H. Sabin.
(3) Finishing Northern Hard Maple Flooring the MFMA Way, Maple Flooring Manufacturers Association. Form No. 31580.
(4) Oak Floors for your home, National Oak Flooring Manufacturers Association.

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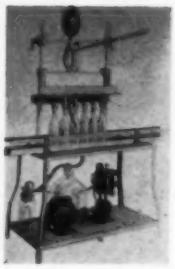

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Insecticides...

(*From Page* 138)

murally in the absence of DDT have become susceptible after a few generations. On the other hand, similar strains continued in the field show little indication of reversion due presumably to the presence on environmental surfaces of enough residual DDT to maintain resistance.

7. The general observation is that field resistant house flies are more vigorous and that they increase in numbers more rapidly than susceptible populations; however, careful measurements in California on one resistant strain in comparison with its normal parental stock showed no such differences.

Thus this modern renaissance of insect control by chemical insecticides is threatened with self extinction. Can some practicable means be found to circumvent this monstrous dilemma of acquired resistance, to prevent the adaptive evolution of harassing and germ-carrying insects which may present even greater sanitary problems than did their susceptible forebears? Must we forfeit to the defensive resourcefulness of Nature the almost incredible gains already made by modern chemistry against the enemies of health comfort? Must we turn back the clock to the days of the fly-swatter, to ditch digging, to spreading oil upon the teeming waters?

I believe that in this matter of insect control we must be shameless and practical eclectics. Prudent sanitarians will never abandon the tried and tested procedures of basic sanitation which at reasonable cost remove the sources of insect production or which exclude insects from homes. As a supplement to these measures, the chemical destruction of insects within and around houses is and will remain an attractive public health activity. In spite of the disquieting sequences mentioned above, there are many places where modern insecticides are being used effectively. These and related compounds, synergized with new adjuvants, will continue to give satisfactory service at least temporarily and in some instances indefinitely. It would be hard to withhold from ailing populations the benefits of insect control by these means simply because we know that in some unpredictable situations resistant strains will develop.

Urges New Insecticide

IN the meantime, it behooves public health and industrial scientists to develop something more notable than another insecticide built on the same old chemical chassis with a deceptively streamlined formula. Our attention should be reoriented to the elucidation of those physiologic mechanisms by means of which Dame Nature strives to protect her vectors and agents of disease from the baneful effects of the insecticides and antibiotics devised by the ingenuity of man. Killing chemicals we have in abundance, but most of those which are practicable from the standpoint of safety to man carry with them a triggering mechanism which in a one-to-a-million or more instance permits the harmless metabolism of an ordinarily lethal substance. And if that ability is transmissible from one generation to another, in the vulgate, my friends, "You've had it!"

To reveal these closely guarded secrets of Nature, we must introduce to our insecticide and chemotherapeutic laboratories new competences—genetics, pharmacodynamics, enzymology, and probably others. In our own Technical Development Laboratory in Savannah, Georgia, we are now authorizing the expenditure of larger proportions of its allocated funds for basic research of this type. I believe this policy should be adopted in principle and practice as widely as possible in other laboratories, governmental and industrial. I can see no other rational approach to the ultimate development of insecticidal compounds against which the compensatory forces of Nature are powerless.

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Aerosol Coatings

(*From Page* 140)

and the can valve opened by turning the valve at E. The apparatus is allowed to stand until a constant pressure reading is obtained. Temperature of the atmosphere is read at a point as close to the can as convenient.

Measurement of Consistency

After measuring the pressure, valve F and the can valve are closed. At this point, removal of the gauge is desirable to make manipulation of the remainder of the apparatus easier. The can and consistency tube are returned to the position shown in Figure 1. The valve G leading into the consistency tube is opened and the system evacuated again. Valve L is closed and the can valve is then opened and the liquid transferred into the consistency tube. The transfer of liquid is facilitated by warming the upper part of the can to about 40°C. or 100°F. The consistency tube should be filled to about 1" to 1½" above the top calibration mark. After the tube is filled, the can valve and valve G should be closed.

The consistency is measured with the tube held in a vertical position by timing the fall of the steel cylinder from the 25" calibration mark to the "2" mark with a stopwatch. The cylinder is raised by means of two horseshoe magnets mounted as shown in Detail M, Figure 2. A series of three determinations is usually sufficient. The temperature should be measured at a point as close to the tube as possible. After measuring the consistency, the material is returned to the can by inverting the tube and cooling the can.

With the particular tube used, it has been found that the consistency of the usual aerosol coating composition falls in the range of 4 to 10 sec. and that, with proper care in the use of the consistometer, check readings can be obtained which show a maximum deviation of ± 0.2 sec. from the average. Concentrates which have been thinned preparatory to loading the propellent have consistencies in the range of 40 to 70 sec. and the maximum deviation in readings within this range is of the order of ± 0.4 sec.

It will be noted that the above directions specify measurement of pressure and consistency at atmospheric temperatures. This is done to avoid encumbering the apparatus with a constant temperature bath and not because the effect of temperature variations has been ignored. Wide fluctuations in atmospheric temperature normally do not occur rapidly enough to interfere seriously with the results obtained. If more precise data are required, it is preferable to make the measurements in a constant temperature room.

If desired, the consistometer may be calibrated with liquids of known viscosity as shown in Table I. From these data, it is apparent that for this particular instrument, the time of fall in seconds corresponds roughly to the viscosity in centipoises (cps.). The validity of this calibration for use with aerosol coating compositions is uncertain because the flow characteristics of the liquids in question are likely to be non-Newtonian, especially when pigments are present. Since the instrument is used primarily for determining relative values, it is sufficient to consider the time of fall in seconds as "consistency" and thus, avoid confusion as to the significance of the results when they are expressed in standard units of viscosity.

Application of Pressure and Consistency Data

WHILE it is not within the scope of this publication to consider the details of formulating aerosol coating compositions, the following points of general interest in regard to the use of consistency and pressure data for this purpose should be noted:

1. These data can be combined with observations of spraying characteristics and film properties to give a pressure-consistency chart which will show broadly the regions of satisfactory and unsatisfactory performance.

2. The adjustments in composition required to fix the consistency in the desired range can be determined by use of curves of the type illustrated in Fig 3 in which the logarithm of the consistency is plotted as a function of the volume percentage of "Freon"* propellent added to a typical white aerosol enamel concentrate.

3. The curves in Figure 3 merely show the extent to which the consistency of the aerosol mixture is reduced by addition of a given quantity of "Freon" fluorinated hydrocarbon propellent. However, similar plots can be employed for thinning solvents (non-propellents) and the slope of the consistency-composition curve can be used as an index of the thinning efficiency.

4. Marked changes in slope of the consistency-composition curve such as are shown by the curve for "Freon-12" (dichlorodifluoromethane) in Figure 3 can be used as an indication of incipient gellation.

Summary:

A simplified method of determining pressure and consistency on a standard aerosol package is described and its use in developing aerosol coating formulations is illustrated briefly.

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* (Reg. U. S. Patent Office; trademark for DuPont's fluorinated hydrocarbons).

Table 1

Calibration of Consistometer with Aqueous Glycerol Solutions

Glycerol Conc.	Viscosity	Time of Fall
Wt. %	Cps. at 25°C. (77°F.)	Sec. at 24°C. (75°F.)
57.18	7.47	8.0
73.00	23.28	19.6
82.41	59.89	51.5

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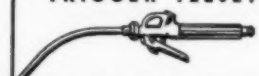

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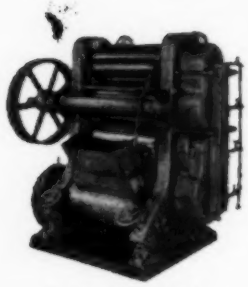

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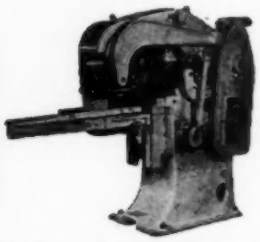

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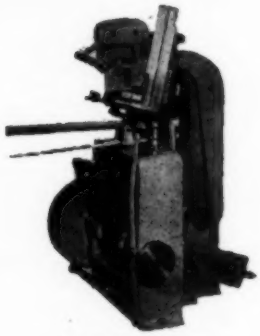

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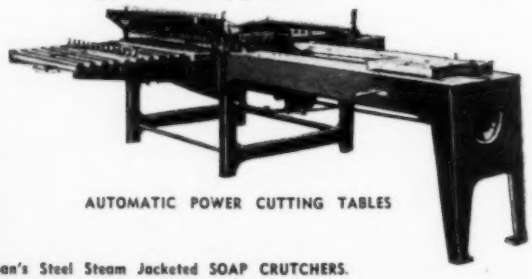

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Production Manager: National AAA detergent manufacturer seeks fully qualified production manager. 40-50, good basic education in chemicals or industrial engineering or equivalent. Prefer ten or more years experience all phases of production, including top management participation, in medium size company doing bulk and small unit high speed packaging of dry products. Excellent in human relations is a prime requisite. Salary open. If you are interested in a life-time career and excellent future with a multi-plant, growing concern, submit complete details in confidence first letter. Address Box 592, c/o *Soap*.

Salesmen Wanted: To sell complete line of sanitary chemicals to jobbers. Must be experienced and have a following. Address Box 593, c/o *Soap*.

Technical Service Representative: Experienced in laundry field, preferably with a sound technical background, for field service, instructional, meeting and promotional work. Permanent position with a progressive medium sized chemical concern in the Detroit area. Excellent opportunity. Give full details concerning experience, education and salary requirements in first letter. Address Box 595, c/o *Soap*.

Standard Reference Books:
See page 122

Situations Wanted

Chemist: If you are looking for a chemical engineer with 20 years experience in petrochemicals, sulfonates, detergents, waxes, laundry and toilet soaps, I know a man of excellent character whom I can recommend highly. He is a graduate of the Technical University of Vienna with experience mostly in Europe and the Far East. He has been chief chemist and plant supt. but will take position in any capacity to relocate and get started. Will go anywhere. If you have an opening for this man, write me for further details. W. J. Bjork, L. Sonneborn & Sons, Inc., 300 Fourth Ave., New York 10, N. Y.

Southern Sales: Executive maintenance supply salesman of proven ability covering states from Texas to Florida inclusive, interested in a small line or item sold to janitor supply houses and paper jobbers. Address Box 596, c/o *Soap*.

Chemist: Broad experience, soaps, toilet preparations and household chemicals, seeks connection. Special investigations, liaison between branch plants, factory and consumer. Willing to travel, can be your eyes and ears away from the office. Address Box 597, c/o *Soap*.

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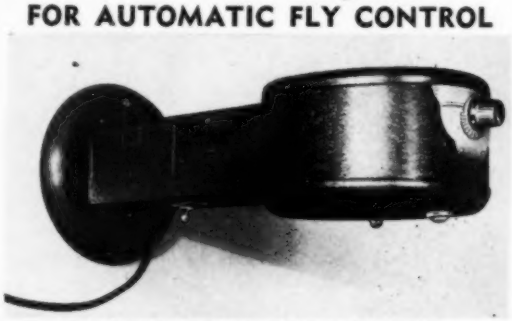

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UTICA, N. Y.

Situations Wanted

Plant Supt.: Chemist for past 15 years directing all manufacture, personnel, etc. for plant making insecticides, soaps, cleansers, cosmetics will make change. Direct compounding, shipping government contracts. Age 40, excellent record, best references. Can take over full management large or small plant. For details, write Box 598, c/o *Soap*.

Miscellaneous

Will Purchase for cash small going business manufacturing soap and cosmetic products. Will buy business including plant, or just brands and good will if reasonably well established. Wanted business where additional capital and sales effort have good chance to produce. Give details in confidence to Box 599, c/o *Soap*. Or through your attorney if preferable.

Will Purchase Outright: Any specialty item, to be solely manufactured, closely allied to the soap industry or chemical field. New York Soap Co., Inc., 258 Third St., Bklyn. 15, N. Y. Tel.: ULster 5-3650.

Additional Capital required for expansion by established Canadian partnership selling chemical sanitation specialties and equipment to national industrial firms and governmental departments. About $25,000 needed. Wonderful opportunity to participate in Canada's assured future. Address Box 600, c/o *Soap*.

Translations: Publicity, Articles, technical. From English into Spanish, French, German and vice versa. Harold Low, 319 West 75th St., New York 23, N. Y.

Miscellaneous

Wanted: Complete soap or sanitary chemical plants. Also individual items such as crutchers, plodders, mills, mixers, presses, dryers, filling equipment, etc. R. Gelb & Sons, Inc., State Highway No. 29, Union, N. J.

Wanted: A good used Viscolizer or homogenizer. Give size, make, price and condition. Address Box 601, c/o *Soap*.

Wanted: February 1952 issues of SOAP & SANITARY CHEMICALS. Will you help out technical library urgently in need to complete file. Send to Box 543, c/o *Soap*.

Will purchase Immediately: Pneumatic Packaging Machine, used for chips, powder, cleanser; also dry mixers, chip dryers, crutchers, and automatic soap press. Address Box 602, c/o *Soap*.

Wanted: Kettles, frames, pulverizers, cooling rolls, chip dryers, plodders, cutting tables, evaporators, packaging units. Will consider idle or operating plant. P. O. Box 1351, Church St. Sta., New York 8, N. Y.

Soap Plant Wanted: We are now manufacturing over $20,000,000 in various lines and wish to expand by acquisition of assets or stock of one or more industrial companies. In our negotiations the seller's problems and wishes will receive full consideration. Present personnel will normally be retained. Address all replies "confidential" C. J. Gale, Sec., 233 Broadway, New York 7, N. Y. BA 7-1819.

Are You Posted on SYNTHETIC DETERGENTS and SOAPS & DETERGENTS? See page 122.

Miscellaneous

Wanted Surplus: Cresylic acid, para, pyrethrum, DDT, BHC, naphthalene, alkalies, oils, soaps, waxes, etc. Chemical Service Corp., 92-06 Beaver St., New York 5, N. Y. Tel.: HAnover 2-6970.

For Sale

Chemical Plant & Offices For Sale: Modern, brick two-story factory and offices, approximately 7500 sq. ft., located in midwestern city. Completely equipped, ample storage space for supplies and 600 drums. Trucks, loading dock, cooking vat, soap crutcher, homogenizer, filter, electric mixers, storage tanks and 10 ton hydraulic forcing press for maunfacturing deodorant blocks. Well established, going business, selling floor maintenance materials and janitorial supplies to industrial and institutional accounts. Address Box 604, c/o *Soap*.

For Sale: Complete Pneumatic Scale packaging line consisting of carton feeder, former, bottom sealer, weigher, top sealer and tight-wrap, speed 40-45 packages per minute; Stokes double drum roll drier 48″x 108″; Buffalo double drum roll drier 42″x120″ electronic metal detection equipment and radio frequency sterilizer for cereal products. Address Box 603, c/o *Soap*.

For Sale: 1500 & 3000# Soap Crutchers; Wrapper type S; P&S rolls; 3&5 roll Mills; 10″ Plodder; Pdr. Mixers; Fillers; Dryer; other items. I. E. Newman, 5602 Blackstone Avenue, Chicago, Ill.

Standard Reference Books: See page 122

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International Stainless Steel Automatic Straightline Vacuum Filler, 160 per minute.
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CRCO New Way Model MH, Burt Adjustable Wraparound Labelers.
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Formerly TAMMS SILICA COMPANY

For Sale

For Sale: 1—4′ x 8′ steel flaking or cooling roll; Union Bag sewing machine, 80500 DZ head, M.D.; Sperry 24″ Recessed cast iron filter press; Shriver 30″ plate & frame C-1 filter press; Sperry 30″ aluminum P & F filter press; Munson 2000 lb. rotary batch mixer; 1 - Houchin Perfection jacketed crutcher, 3000#; 1—Std. Knapp self-adjusting gluer-sealer and compression unit; 100 lb. jacketed soap crutcher; 1—Day No. 71S/S Roball Sifters; Size 11, 23, 43 and 53 Rotex screens; Dopp 350, 650 gal. jacketed, open kettles; Jones automatic "K" soap press; 1—Houchin #4 para block press; Mikro No. 1 and No. 2 Pulverizer; 1—Wolf 1800 lb. ribbon blender; 18 Aluminum storage tanks, 800, 600 and 250 gals.; Special—27 unused rectangular 200 gal. aluminum storage tanks at only $75 each plus $15 crating. Only a partial list. Send us your inquiries. We buy your idle machines. Consolidated Products Co., Inc., 15-21 Park Row, New York 38, N. Y. Phone BArclay 7-0600.

For Sale: Evaporator, Swenson . . . used; good. New cost approximately $17,000. As is, where is . . . $3450. Extruder, double worm, stainless steel die head and worms. Doering Mfg. New cost approximately $5700. As is, where is . . . $1850. Stainless steel jacketed tanks and kettles, many sizes . . . write your needs. Kelly & Co., 2701 Olive St., St. Louis 3, Mo.

For Sale: 20-bbl. soap crutcher; 600# jacketed horizontal ribbon mixer; 50# to 2000# horizontal ribbon powder mixers. Broughton 50 cu. ft. double arm powder mixer. Steam jacketed steel mixing kettles. Stainless steel steam jacketed kettles. Stainless steel tanks up to 16,000 gal. Shriver 30″ cast iron filter press, 35 plates, center feed, open delivery. Perry Equipment Corp., 1410 N. 6th St., Phila. 22, Pa.

For Sale: Proctor & Schwartz 6-Fan automatic soap chip dryer. 2-roll chilling unit, large roll 48″ dia. Empire State foot presses. Soap frames. Allbright-Nell 4′x9′ chilling rolls. Lehmann 4-roll W.C. 12″x36″ steel mill. Blanchard #14 soap powder mill. Houchin 8-1/2″x16″ 3-roll and 18″x30″ 4-roll Granite stone mills. Kettles and tanks, iron, copper, aluminum and stainless. Dryers vac. & atmos. Jones automatic soap presses.

For Sale

Slabbers and cutting tables, hand & power. Crutchers. Six-knife chipper. Filter presses 12″ to 42″. Wrapping & sealing machines. Powder, paste & liquid mixers. Rotex sifters. Filling machines. Grinders. Hammer mills. Colloid mills. Three-roll steel mills 8″x22″ to 16″x40″. Portable elec. agitators, pumps, etc. Send for bulletin. We buy your surplus equipment. Stein Equipment Co., 90 West Street, New York 6, N. Y. WOrth 2-5745.

Latest Book on MODERN CHEMICAL SPECIALTIES . . . see page 122.

Snell Adds to Supplee Div.

Foster D. Snell, Inc., New York, recently announced the signing of contracts for the construction of a second unit of their Supplee Laboratories Division at Bainbridge, N. Y. The expansion, originally planned for 1954 or 1955, has been speeded by demand of industrial laboratories for vitamin assay services and animals, and by the need for an air-conditioned animal room, according to the firm. Completion and occupancy of the new laboratory is scheduled for early fall.

Multi-Clean Sales Clinic

A sales clinic for sanitary supply distributors was held recently by Multi-Clean Products, Inc., St. Paul, Minn. During this five-day sales clinic, the fifth held by Multi-Clean, forty distributors exchanged sales ideas; heard, saw and applied the latest methods and techniques in floor maintenance; and saw how the firm's floor maintenance equipment and supplies are manufactured and promoted.

Diversey Reports Earnings

Consolidated net earnings of Diversey Corp., Chicago, and subsidiaries in the three months ended June 30, 1952, were $92,404 after income tax provisions, compared with earnings of $127,546 in the corresponding quarter of 1951, the company reported. The earnings were equal to 42 cents a share on 220,000 shares of Diversey common stock outstanding, as against 58 cents a share on the same number of shares a year before. In the six month period ended June 30, consolidated net earnings after taxes were $139,954, equal to 63 cents a common share, compared with $249,865 and $1.13 a share in the first half of 1951.

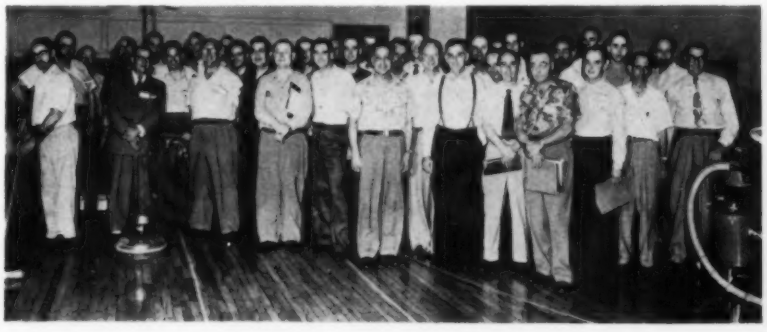
Marshall in New Post

Charles G. Marshall was recently appointed manager of United Sterling Chemicals, Inc., New York. He is in charge of sales of insecticides, pharmaceutical and agricultural chemicals. He was formerly director of the industrial division of Winthrop-Stearns, Inc., New York.

Kolker Offers Acaricide

Kolker Chemical Works, Newark, N. J., subsidiary of Diamond Alkali Co., Cleveland, recently announced availability in commercial quantities of para-chlorphenyl parachlorobenzene sulphonate. This chlorinated organic acaricide is being marketed under the designation "K-101". The material is compatible with a large number of insecticides and fungicides, and can therefore be co-sprayed where required. It is claimed to possess a long period of residual effectiveness.

Photograph taken during recent Multi-Clean Sales Clinic



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—help us complete this case history

What unusual baiting problem have you solved with warfarin bait? Your detailed answer to this question, along with a description of other baiting case histories, will be greatly appreciated.

With your permission, your information may be included in a brochure describing the effective use of warfarin baits. You will, of course, receive a free copy of the completed brochure. Please write today.

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packed in Drums or gal. Containers.

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packed in 8 oz. bottles or in Gals.

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made with RED SQUILL (Fortified) packed in 4 oz., 16 oz. and in Bulk.

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made with RED SQUILL (Fortified) packed in 4—8 and 16 oz. jars.

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Tale Ends

WELL, gentle reader, if plans work out as per schedule, more soapers from more places will congregate in N. Y. come January, 1953, than have ever congregated in one place since soap first was made from goat fat and wood ashes in the days of Plato. This is the 26th annual meeting of the American soap industry under the auspices of the Assn. of American Soap & Glycerine Producers. The AASGP Committee headed by Jim Reilly of Colgate is already busy with plans to make the recent political conventions in Chicago look like two-bit affairs. More later.

* * *

Recent advertising of a new detergent, "Kita," in Venezuela has caused quite a stir in that market. The grapevine says that the new product is out as a nose-to-nose competitor to P&G's "Ace" which enjoys a nice demand in Venezuela. "Kita," un producto de Las Llaves, plays strongly on the rising nationalism noted in Latin America of late . . . "Un polvo de lavar venezolano mejor que los importados" . . . better than the imported stuff . . . or that made by foreigners. Well, friends, it could be just the beginning—just the beginning!

* * *

Personal—If the executive vice-president of a very large soap company in Cincinnati will please step up and pay off that one-buck bet which he made with the manager of the industrial soap division of a large packer with offices in Chicago regarding the price of tallow, said manager will be duly grateful. To refresh the memory of the aforementioned exec v.p., the bet was that tallow would not go under five cents a month or so ago. It did. Please pay up.—W.

* * *

Today, "chlorophyll" is a magic word in selling. This is what an advertisement stated recently in offering "chlorophyll treated leathers." The idea is that you use this leather for sweat bands in hats and they "keep the inside of a hat smelling like a rose . . . will help to deodorize the unpleasant aromas of stale hair tonics and accumulated perspiration . . . and maybe the "chlorophyll-treated" stamping on each leather could be a sales clincher." Magic word! And how. But, ye gods, ain't we in way over our head already? Where, oh where, is this "chlorophyll magic" going to end?

* * *

Whenever any of the soap companies, large or small, puts out a new detergent, soap or shampoo, the brains of the merchandising division usually spend a lot of sleepless nights working out a snappy, one-word name. Invariably, they come up with something like Bloop, Klip, Scrubbo, Pilk—that's Klip spelled backwards—Pleeze, Buzz, etc., etc. Mostly, the poor innocent patron of Mr. Schultz' De Luxe Grocery doesn't know off hand whether the product is a new crispy, crunchy breakfast food or something to wash the old man's overalls. So, when C-P-P recently came out with a new detergent for the Kirkman Division and called it just plain "Kirkman's All-purpose Detergent," we were overjoyed and amazed. To the bloke who thought this one up, our congratulations!

* * *

Stand back, good folks, and don't crowd while we announce the new chlorophyll development and product of the week! It's socks treated with chlorophyll and marketed under the fetching trade cognomen of "Sweet Feet." And that should be the boon of the age to movie goers and Friday evening subway riders.

* * *

Has the general advertising, merchandising and selling of household insecticides this past season been sort of lousy or could this just be our impression? With one of the worst fly epidemics in many a year throughout the eastern states, we noted store after store out of insecticides with no intention of restocking until next year. We noted what seemed to be very scanty advertising — which incidentally could be read by the dealer as well as the consumer. We received reports of but feeble efforts to sell the dealer on restocking, and of wholesalers with depleted stocks. Maybe we got the wrong impression, but if not, possibly more selling and less crying might be the order of the day.

* * *

If you think that you know to take a bath, read the little booklets recently put out in behalf of Pears Soap by the Public Relations Dept. of Harriet Hubbard Ayer, "So you think you know how to take a bath!" A clever piece of readable literature in semi-humorous vein which contrasts sharply with most of these flat, dry alleged sales booklets that nobody reads. And while selling this old-time Lever English-made soap, the Ayer boys don't miss the chance to slip in a plug or two for their colognes and other specialties. Neat job!

* * *

Says an item in the *Lexington, Ky. Herald*s "Soaper to give up Danville bank post." What soaper, thought we, reading on further. Come to find out, Soaper is a man's name in this case, not a soap maker. In fact, the gent is R. E. Soaper, a vice-president of the Citizens National Bank of Danville, Ky.

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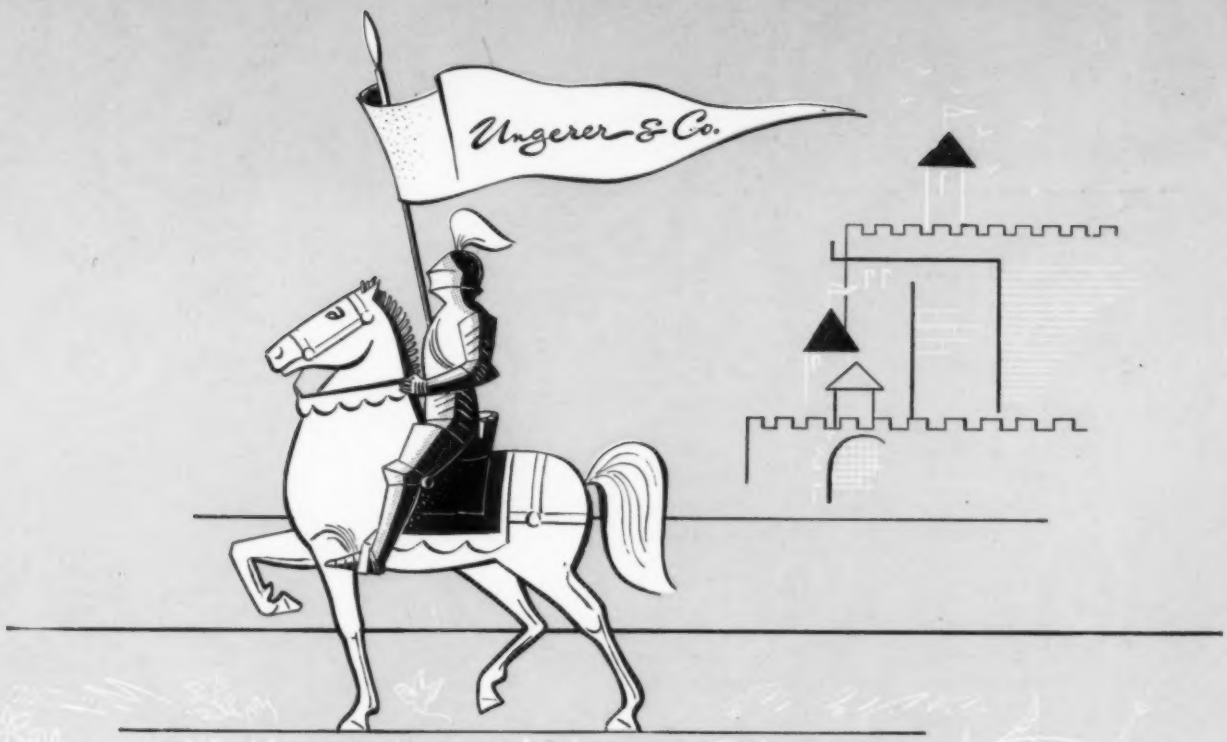

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